```
GenCore version 5.1.6
```

Total number of hits satisfying chosen parameters: Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries Minimum DB seq length: 0 Maximum DB seq length: 200000000 Database :

6940544

3470272 segs, 21671516995 residues

Searched:

GenEmbl:*

em_htgo_hum:*

Pred. No. is the number of results predicted by chance to have a

em_htgo_mus:* em_htgo_other:*

		e)			SUMMARIES			
Result No.	Score	ű ű	Leng	. DB		<u>.</u>	escript	ion
	. 0	: 0		. 9	AX080458		X08045	Segretaria
N	O	00	8	ω	BT008847	; m	T008847	Arabidops
	1077	ö	20	ω (AY099809	AT, I	Y099809	Arabidops
	16	9	א ני	α	AB010697	et e	B010697	Arabidops
9	073	່ດ	10	00	AY084999	Ç Æ	Y084999	Arabidops
	ω :	0	23	00	AK117202	Ø	K117202	Arabidops
	4.4	ao a	200	ωa	AX080460	4 , p	X080460	Sequence
٠.	78		5 8	0 (4	AC135566	Q eQ	C135566	Medicado
11	76	'n.	23	7	AC146342	K	C146342	Medicago
01.0	90	m' c	8 8	ω (AC144726	4.	C144726	Medicago
1 L 2 4	2 2	, n		N (V	AC119410 AC144476	4 4	C119410 C144476	Medicado
ı.	52	m	21	N	AC147431	.α	C147431	Medicago
16	22	m'	9	(4)	AC146862	ď	C146862	Medicago
<u>~</u> α	4.6	'n.	5 G	00 a	AP004534	«	P004534	Lotus cor
ാത	31	id	0 6	0 00	AC123976	•	C123976	Medicado
0	29	-i.	8	9	AX651508	ď	X651508	Sequence
c	90	.i -		y y	AX412507	4 6	X412507	Sequence
1 m	2 6	; ;;		o vo	AX507354	.	X507354	Sequence
4.	5			9	AX589857	A	X589857	Sequence
2 25	229.2	21.3	981	α α	AY113050	A(A	AY113050	Arabidops
	29	: ::		ω	AC006836	4	C006836	Arabidops
	9 5	<u>.</u>	17	œι	ATTS4391	N	46823 A.	thalian
n 0	ש ה			pα	AA506332 AF325065	∢ 4	X506332	Sequence
· ল	19		6	00	BT002108	m	T002108	Arabidops
01.0	9 5	ċ	15	ന ദ	AY087921	A	Y087921	Arabidops
ე რ ე 4	7 5	· .	177	ο α	AY092961	∢ ⊼	Y092961	Arabidops Arabidops
ı ıo	11	· ~	8801	000	ATT14D3	: A	L138649	Arabidops
36	7	<u>.</u>	921	ω.	ATF14D17	A	L353992	Arabidops
37	600	<u>.</u>	9668	00 O		A .	L049171	Arabidops
o o	מ מ		2000	ο α	ATCHRIVES	t A	161564	Arabidops Arabidops
40	2.4		126	ω		(ào	T010865	Arabidops
C	4, 5	<u>.</u> ۰	28	co o	AB026651	A	3026651	Arabidops
1 m	20	·	54	ο Φ	OSJN00221	4 A	1663019	Arabicops Orvza sat
₹#	20	·	199	œ		A	F000307	Brassica
ın	7	<u>.</u>	13	ω	AC027134	Ā	3027134	Arabidops
					ALIGNMENTS			
RESULT 1 AX080458								
LOCUS DEFINITION ACCESSION VERSION	AXO8C N Seque AXO8C	80458 uence 1 80458	from	a tr	1077 bp ent WO0102589. 9885	DNA linear	r PAT	22-FEB-2001
		bidopsi	thal:	ana	(thale cress)			
ORGANISM		Arabidopsis Eukaryota; ' Spermatophy' rosids; eur	thal: Virid: Ca; Ma	iana iplanta agnolic II; Br	ie; Strepto phyta; eud	phyta; Embryophyt licotyledons; core Brassicaceae; Ax	rta; Tra re eudic rabidop	cheophyta ots; sis.
REFERENCE AUTHORS	1 Var:		d Gido	la, S				
TITIE	Met				s and genetic			

```
PIOO8847.

BIOO8847.

RADAGOPSIS thaliana (thale cress)

FLI CDNA.

Arabidopsis thaliana (thale cress)

Rearrota, Viridiplantae, Streptophyta, Embryophyta, Tracheophyta, Spermatophyta, Magnoliophyta, endicotyledons, core eudicots; rosids, eurosids II Brassicales, Brassicacee, Arabidopsis.

Kim,C.J., Chen,H., Cheuk,R., Shinn,P., Bowser,L., Carninci,P., Dale,J.M., Hayashizaki,Y., Ishida,J., Jones,T., Kamiya,A., Karlin-Neumann,G., Kawai,J., Lam,B., Lin,J., Miranda,M., Nauyen,M., Ondera,C.S., Palm,C.J., Quach,H.L., Sakurai,T., Satou,M., Seli,M., Southwick,A., Toriuni,M., Wong,C., Sakurai,T., Yangda,K., Yu,G., Shinozaki,K., Davis,R.W., Theologis,A.
                                                                                                                                            TITCGGAAAGGAGGAAGTGAGTGATTGGGGTTAACTATTTGTCACCTTCACAAGTGGAAAGA 1020
                                                                                                                                                                                                                                                                                                                                              PLN 13-JUN-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ů
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RIKEN Genomic Sciences Center (GSC) members carried out the collection and clustering of RAFL cDNAS (RAFL cDNA : 'RIKEN Arbidopsis Full-Length cDNA) : Seki,M., Narusaka,M., Ishida,J., Satou,M., Kamiya,A., Sakurai,T., Carninci,P., Kawai,J., Hayashizaki,Y. and Shinozaki,K.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Submitted (13-JUN-2003) Salk Institute Genomic Analysis Laboratory (SIGAAL), Plant Biology Laboratory, The Salk Institute for Biological Studies, 10010 N. Torrey Pines Road, La Jolla, CA 92037
                                      960
                                                          The Salk, Stanford, PGEC (SSP) Consortium members constructed and sequenced the pUNI (ORF) clones using the RAFL cDNAs: Kim,C.J., Chen,H., Cheuk,R., Shinn,P., Bowser,L., Chan, M.M., Chang,C.M., Miranda,M., Jones,T., Karlin.Neumann,G., Lam,B., Lee,J.M., Lin,J., Miranda,M., Nguyen,M., Onodera, C.S., Palm,C.J., Quach,H.L., Southwick,A., Tang,C.C., Toriumi,M., Wong,C., Wu,H.C., Yamada,K., Yu,G., Davis,R.W., Theologis,A., and Ecker,J.R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Arabidopsis ORF clones
Unpublished
Unpublished
Unpublished
Unpublished
Kim,C.J., Chen,H., Cheuk,R., Shinn,P., Bowser,L., Carninci,P.,
Kallin-Neumann,G., Kawai,J., Linn,J., Mirranda,M.,
Narusaka,M., Nguyen,M., Onodera,C.S., Palm,C.J., Quach,H.L.,
Sakurai,T., Satou,M., Seki,M., Southwick,A., Toriumi,M., Wong,C.,
and Ecker,J.R.
Direct Submission
                                                                                                                                                                                                      TIGICAGCCTIAGIGGAIGACAAGTIAGGIGGAICIGGICICACTITICAGGIIGAGC 1077
                                                                                                                                                                                                                                Kim,C.J. (SSP/Salk) and Seki,M. (RIKEN GSC) contributed equally
this work. Shinozaki,K. (RIKEN GSC) and Ecker,J.R. (SSP/Salk)
contributed equally to this work as PIs.
Location/Qualifiers
841 GAAGAGGAACGAAAAGGGAGTTGTGAAGGCTATCGCCGAGCTGTGTAGCTTCGAGAATCTG
                                                                                                                                                                                                                                                                                                                                                p mRNA linear mRNA, complete cds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1. .1080
/organism="Arabidopsis thaliana"
                                                                                                                                                                                                                                                                                                                                                  BT008847 1080 bp Arabidopsis thaliana At5g07010 mBT008847
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /mol_type="mRNA"
/db_xref="taxon:3702"
/chromosome="5"
                                                                                                                                                                                                          1021
                                               901
                                                                                      901
                                                                                                                            961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         source
                                                                                                                                                                                                                                                                                                           RESULT 2
BT008847
LOCUS
DEFINITION
ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TITLE
JOURNAL
REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMMENT
                                                                                                                                                           d
                                           à
                                                                                    임
                                                                                                                            ò
                                                                                                                                                                                                          ઠે
                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GAAGAGGAACGAAAGGGAGTTGTGAAGGCTATCGCCGAGCTGTGTAGCTTCGAGAATCTG 900
                                                                                                                                                                                                                                                                                                                                                                                                                                      120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GATCTGTATTGCCGGGGGGGGTTTGGCCCGGTTTGGGGAACACATGTTGGGATAC 720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           720
                                                                                                                                                                                                                                                                                                                                                                                               120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CCTTTCTTCGAGTACAAGCTTTACGCCAACGGAGATGTTCCCGATCTCTCGGGTCTAGCC 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                480
                                                                                                                                                                                                                                                                                                               9
                                                                                                                                                                                                                                                                                                                                                      9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             721 TGGAGAGAGGTTGAAGAGCCAGAGAAAGTCTTTTTAAGGTACGAGGATCTCAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      781 GACGACATCGAGACCAACTTGAAGAGGCTTGCAACTTTCTTAGAGCTTCCTTTCACCGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ccceggrereaagercereracreeccegaacccerrreacacrarrcarcreres
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CATTACACCAACAACATCCAAATCCGAGTCAGTGAGCCCAGTCTTGCTAGACCAAGCTTTT
    flowering in plants, and plants genetically modified to flower farly and tardily Patent: WO 0102589-A 1 11-JAN-2001;
Varin, Luc (CA); glida, Satinder (CA)

Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                       1 AIGGCIACCICAAGCAIGAAGAGCAIICCAAIGGCGAICCCAAGGITCICCAIGIGIU
                                                                                                                                                                                                                                                                                                                                                                                                                           181 ACTGGTTACCTTTACCTATTCCAAGGGTTTTGGTGCCAAGCCAAAGAGATTCAAGCCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CTTTCTTCGAGTACAAGCTTTACGCCAACGGAGATGTTCCCGGATCTCTCGGGTCTAGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61 AAGCTCCACCTCCTTAAAGAAGGCAAAACTCGCGACGTCCCGAAAGCCCGAAGAAGATGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               121 GGGCTAAGCTGCGAGTTCCAAGAGTGTTGGATTCTTTCTAAGGAGAGAGGATGGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              241 ATGICITICCAAAACATTICCAATCCCTCGAAAACGACGTCGTTCTCGCCACCATACCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATGTCTTCCAAAAACATTTCCAATCCCTCGAAAAGGACGTCGTTCTTGCCACCATACCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              301 AAATCCGGTACAACCTGGCTAAAAGCTTTAACTTTCACCATCCTTAACGGCACCGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAATCCGGTACAACCTGGCTAAAAGCTTTAACTTTCACCATCCTTAACCGTCACCGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GATCCGGTTGCCTCGAGTACCAACCACCTTTTCACTTCCAACCCTCATGACCTTGTA
                                                                                                                                                                                                                                                                                                               1 ATGGCTACCTCAAGCATGAAGAGCATTCCAATGGCGATCCCAAGTTTCTCCATGTGTCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      121 gescraagereceaerrecaagagarerresarrererrecraageagagagagaga
                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                    Length 1077;
                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                    DB 6;
                                                                                                                                                                                                                                                                           ö
                                                                                                                               /organism="Arabidopsis thaliana"
/mol_type="unassigned DNA"
/db_xref="taxon:3702"
                                                                                                                                                                                                                                                                           0; Mismatches
                                                                                                                                                                                                                                    Score 1077;
Pred. No. 0;
                                                                                                                                                                                                                                    100.0%;
ilarity 100.0%;
Conservative 0
                                                                                                                                                                                                                                      Query Match
Best Local Similarity
Matches 1077; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 721
                                                     JOURNAL
                                                                                              FEATURES
                                                                                                                                                                                                 ORIGIN
```

QQ

∂

ò g

g

ઠે

g ò g 8 g $\dot{\delta}$ g $\dot{\delta}$ qq ò 임 දු පු

 $\stackrel{>}{\circ}$ g ठे В ò g δ g

960

840 840

```
A109809.1 GI:20466685

RIG CDNA.
Arabidopsis thaliana (thale cress)
Arabidopsis thaliana (thale cress)
Arabidopsis thaliana (thale cress)
Arabidopsis thaliana (thale cress)
Bukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots;
rosids; eurosids III Brassicales; Brassicacea, Arabidopsis.
To lases 1 to 1347)
Balm.C.J. Bowser.L., Jones, T., Banh, J., Carninci, P., Chen, H., Palm.C.J., Bowser.L., Jones, T., Banh, J., Carninci, P., Chen, H., Kami, J., Kim, C., Lin, J., Satou, M., Seki, M., Shinn, P., Yamada, K., Shinn, P., Bcker, J., Theologis, A. and Davis, R.W.
Direct Submission
L. Submitted (24-APR-2002) DNA Sequencing and Technology Center.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AY099809 1347 bp mRNA linear PLN 06-MAY-2002 Arabidopsis thaliana steroid sulfotransferase-like protein (At5g07010) mRNA, complete cds.
                                                                                                                                                                                                                                                                                                                                                                                         TTTCGGAAAGGAGAAGTGAGTGATTGGGTTAACTATTTGTCACCTTCACAAGTGGAAAGA 1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                       961 TTTCGGAAAGGAGAAGTGAGTGATTGGGTTAACTATTTGTCACCTTCACAAGAGAAAGA 1020
                                                                                                                                                                                                                                                                                                                            901 AAGAAGTTGGAGGTGAACAAGTCAAACAAGGATCAAGAACTTTGAGAATCGATTCTTG 960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     The Salk, Stanford, PGEC (SSP) Consortium members carried out the sequencing and annotation of the RAFL cDNAs: Nguyen, M., Southwick, A., Karlin-Neumann, G., Lam, B., Miranda, M., Palm, C.J., Bowser, L., Jones, T., Banh, J., Cheuk, R., Cheuk, R., Chung, M.K., Kim, C., Lin, J., Liu, S.X., Pham, P.K., Sakano, H., Shinn, P., Yamada, K., Ecker, J., Theologis, A. and Davis, R.W.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    collection and clustering of RAFL CDNAS (RAFL CDNA : 'RIKEN Arabidopsis Pull-Length CDNA'): Seki,M., Narusaka,M., Ishida,J., Saturai,T., Carninci,P., Kawai,J., Hayashizaki,Y. and Shinozaki,K.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TIGICAGCCTTAGIGGAIGACAAGTIAGGIGGAICIGGICICACTTICAGGIIGAGC 1077
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1021 TIGICAGCCTTAGTGGATGACAAGTTAGGGGGGATCTGGTCTCACTTTCAGGTTGAGC 1077
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Submitted (24-APR-2002) DNA Sequencing and Technology Center,
Stanford University, 855 California Avenue, Palo Alto, CA 94304,
                                                                                                                                                                                  841 GAAGAAGGAACGAAAGGAGATGTGAAGGCTATCGCCGAGCTGTGTAGCTTCGAGAATCTG
                                                                                                                                  GAAGAAGGAACGAAAGGGAGTTGTGAAGGCTATCGCCGAGCTGTGTAGCTTCGAGAATCTG
GACGACATCGAGACCAACTTGAAGAGGCTTGCAACTTTCTTAGAGCTTCCTTTCACCGAA
                                     Nguyen, M. (SSP/Stanford) and Seki, M. (RIKEN GSC) contributed equally to this work. Shinozaki, K. (RIKEN GSC) and Davis, R.W. (SSP/Stanford) contributed equally to this work as PIS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RIKEN Genomic Sciences Center (GSC) members carried out
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          e-mail for correspondence: arab@sequence.stanford.edu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /clone="RAFL09-95-D03 (R25564)"
/ecotype="Columbia"
/note="This clone is in pBluescript"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      thaliana
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       l. .1347
'organism="Arabidopsis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /mol_type="mRNA"
/db_xref="taxon:3702"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /chromosome="5"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AY099809
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1021
   781
                                                                 781
                                                                                                                                  841
                                                                                                                                                                                                                                                              901
                                                                                                                                                                                                                                                                                                                                                                                         196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACCESSION
VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AY099809
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMMENT
                                                8 · 8
                                                                                                                                                                           임
                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                 원
                                                                                                                                                                                                                                                                                                                                                                     ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                      ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                 / Godon_statt=1
/product=1at5g07010.
/product=1at5g07010.
/product=1at5g07010.
/product=1at5g07010.
/db_xref="d1" a1711860"
/db_xref="d1" a171860"
/db_
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAGCTCGAGCTCCTTAAAGAAGGCAAAACTCGCGACGTCCCGAAAGAGGAGAAGATGAA 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATGCTACCTCAAGCATGAAGAGCATTCCAATGGCGATCCCAAGTTTCTCCCATGTGTCAC 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACTCGTTACCTTTACCTATTCCAAGGGTTTTGGTGCCAAGCCAAAGAGATTCAAGCCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAATCGGGTACAACTGGCTAAAAGCTTTAACTTTCACCATCCTTAACCGTCACGGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CCCGGTGTGAAGGTCGTGTACTTGTGCCGGAACCCGTTTGACATTCATCTCTTCGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CATTACACCAACAACATCAAATCCGAGTCAGTGAGCCCAGTCTTGCTAGACCAAGCTTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GATCTGTATTGCCGGGGAGTGATCGGGTTTGGCCGGTTTTGGGAACACACATGTTGGGATAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TGGAGAGAGAGGCTTGAAGAGAGCCAGAGAAAGTCTTCTTTTAAGGTACGAGGATCTCAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATGGCTACCTCAAGCATGAAGAGCATTCCAATGGCGATCCCAAGTTTCTCCCATGTGTCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Argreriticeaaaacarrecearcerceaaaceacercerceceacearecer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GATCCGGTTGCCTCGAGTACCAACCACCTCTTTTCACTTCCAACCCTCATGACCTTGTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GAICCGGIIGCCICGAGIACCAACCACCICIIIIICACIICCAACCCICAIGACCIIGIA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CCTTTCTTCGAGTACAAGCTTTACGCCAACGGAGATGTTCCCGATCTCTCGGGTCTAGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CCTTTCTTCGAGTACAAGCTTTACGCCAACGGAGATGTTCCCGGATCTCTCGGGTCTAGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AGTCCAAGAACGTTCGCAACCCACTTACCGTTCGGTTCCCTAAAGGAAACGATCGAGAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AGTCCAAGAACGTTCGCAACCCACTTACCGTTCGGTTCCCTAAAGGAAACGATCGAGAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CCCGGTGTGAAGGTCGTGTACTTGTGCCGGAACCCGTTTGACACATTCATCTTTCGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CATTACACCAACAACATCAAATCCGAGTCAGTGAGCCCCAGTCTTGCTAGACCAAGCTTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                661 GATCTGTATTGCCGGGGGGGGGTCGGGTTTGGCCCGTTTTGGGAACACATGTTGGGATAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TGGAGAGAGAGCTTGAAGAGACCAGAGAAAGTCTTCTTTTAAGGTACGAGGATCTCAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATGICITITCCAAAAACAITITCCAAITCCCITGGAAAACGACGITGITCITCGCCACATACCI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAATCCGGTACAACCTGGCTAAAAGCTTTAACTTTCACCATCCTTAACCGGTCACCGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ..
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 1080;
                                                                                         /note="steroid sulfotransferase-like protein"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB 8;
/ecotype="Columbia"
/note="This clone is in pUNI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity 100.0%; Pred. No. 0;
Matches 1077; Conservative 0; Mismatches
                                                          .1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 721
                                                          CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORIGIN
```

g

D

ò DP ò

 δ

D D

Dp

 δ g δ

ò

g

원

ò

Q

ð

DP.

 $\stackrel{>}{\circ}$ Б ò g

 $\stackrel{>}{\circ}$

the

Qy 781 GACGACATCGAGACCAACTTGAAGAGGCTTGCAACTTTTTAGAGCTTCCTTTCACCGAA 840 Db 846 GACGACATCGAGACTTGAAGACTTTCTTAGAGCTTCCTTTCACCGAA 905 Qy 841 GAAGAGAACGAAACGAACTTGAAGCTTACGCCGAGCTTCTTCACCTTTCACGAATCTG 900 Db 906 GAAGAGGAACGAAAGGAGTTGTGAAGCTATCGCCGAGCTTTCAGAATCTTG 960 Qy 901 AAGAAGTTGAAACGAAAGAGCTATCACCAGAGCTTTCAGAATCTTTGAAATCTTTG 960 Db 966 AAGAAGTTGAAACAAGTCAAACAAGTCGATCAAGAACTTTGAGAATCTTTG Qy 961 TTTCGGAAAGGAGTGAACAAGTCAAACAAGTCGATCAAGAACTTTGAGAATCTTTTGTGATTCTTG Db 966 AAGAAGTGAGGTGAACAAGTCAAACAAGTCGATCAACAAGTGGAAAGA 1020 Db 1026 TTTCGGAAAGGAGAAGTGAATGAGTTAACTATTTGTCACCTTCACAAGTGGAAAGA 1085 Qy 1021 TTTCGGAAAGGAGAAGTGAGTGATTGGGTTAACTATTTGTCACCTTCACAAGTGGAAAGA 1085 Db 1022 TTTCGGAAAGGAGAAGTGAAGTGAGTTAACTATTTGTCACCTTCACAAGTGGAAAGA 1085 Db 1021 TTGTCACCTTAGTGAATGAGTGAATTAGTCACCTTCACAAGTGGAAAGA 1085 Db 1021 TTGTCACCTTAGTGAATGAGAAGTTAGTGACTTTCACATTTCAGGTTGAGCTTTCACAAGTGGAAAGA 1085 Db 1086 TTGTCACCTTAGAGTGAAAGATAGGAGAAGTTAGAGTTCACCTTCACAAGTGGAAAGA 1085 Db 1086 TTGTCACCTTAGAGTGAAAGATAGGAGAAGTTAGAGTTCACACTTCACAAGTGGAAAGA 1085	REBULT 4 AB010697 AB010697 AB010697 BETTIOTON ATTAINED BETON BETON INTEGER PLN 27-DEC-2000 ACCESSION AB010697 BA000018 AB010697.1 G1:2828182 KATWORS ARABIGOPS: thaliana (thale cress) SURVER STABLED STABLISHAR REMARYORS ARABIGOPS: thaliana (thale cress) SURVERSON REPERENCE I (sites) REFERENCE I (sites) TITLE STRUCTURAL AB010160ph(ra; endicocyledons; core endicocs; rosids; encosids; encosids II, Brassicales; Brassicaceae Arabidopsis, Core endicocs; rosids; encosids II, Brassicales; Brassicaceae Arabidopsis, Core endicocs; TITLE STRUCTURAL AB010160ph(ra; endicocyledons; core endicocs; and Tabata, S. Exceptions of the regions of 1,381,565 bp covered by twenty on physically assigned pl and TAC clones AUTHORS and Tabata, S. 22, 131-145 (1998) REBLINE STRUCTURAL AB0101900 YEARDIGOPSIS (This clone, please see Brassicaceae Arabidopsis thaliana chromosome S. V. Sequence Submission TITLE STRUCTURAL AB010190 Yasukazu Nakamura, Kasusa DNA Research (Chiba 292-01) FURNAL SIMPLINE STRUCTURAL AB010190 Yasukazu Nakamura, Kasusa DNA Research (Chiba 292-01) FURNAL SIMPLINE STRUCTURAL AB010190 Yasukazu Nakamura, Kasusa DNA Research (Chiba 292-01) FORTHAL (Chiba 292-01) FORTHAL (AB0101-01)	Genes encouring trans are presented by Changlaine, St. Louis, (Sean Eddy, Washington University School of Medicine, St. Louis, http://genome.wustl.edu/eddy/tRNAscan-SE/). This sequence may not be the entire insert of this clone. It may be shorter because we remove overlaps between neighboring submissions. The 5' clone is MPH15 and the 3' clone is T28J14. The 5' clone is MPH15 and the 3' clone is T28J14. FEATURES 186380 Organism="Arabidopsis thaliana"
gene 11347 CDS (66145 (60145 /gene="At5g07010" /codon_graxt=1 /codon_graxt=1 /producl="steroid sulforransferase-like protein" /protein_id="AAM20660.1" /db_xxef="G1:2046686" /translation="WATSKNSIPMAIPSFSMCHKLELLKEGKTRDVPKAEEDEGLSC /translation="WATSKNSIPMAIPSFSMCHKLELLKEGKTRDVPKAEEDEGLSC EFORMLDSIPKERGWRTRYLYLFGGGWCQAKEIQAIMSFQGHFQSLBNDVVLATIPKS GTTWLKALTFTILNENERFDPASSTNHELFTSNBHDLVPFFFSKLYANGDVPDLSGLA SPRITERERKGVVKAIABELGSFSNHKKLEVNBFFBKLYANGDVPDLSGLA SPRITERERKGVVKAIABELGSFENLKKLEVNKSIKSIKNFENRFLFRKGEVSDWVNLS PSQVERLSALVDDKLGGGSGLTFFLS" Query Match Query Match 100.0%; Score 1077; DB 8; Length 1347; Best Local Similarity 100.0%; Pred. No. 0; Matches 1077; Conservative 0; Mismatches 0; Indels 0; Gaps 0;	1 ATGGCTACCTCAAGCATGAAGGATTCCAATGCCGATCCCCAAGTTTCTCCATGTGTCAC 6 ATGGCTACCTCAAAGCATCCAAAACTCGCGCGCGAAGCCCAAGTTCTCCAAGAAGCCCAAGAAGCCCAAGAAGCCCAAGAAGCCCAAGAAG	Db 666 CATTACACCAACATCAAATCCGAGTCAGGCCCAGTCTTGCTAGACCAAGCTTTT 725 Qy 661 GATCTGTATTGCCGGGGAGTGATCGGCTTTTGGGAACACATGTTGGGATAC 720

CDS

```
strong similarity to unknown protein"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           similar to unknown protein"
                                                                                                                                                                                                                                                                                                                                                  /evidence=not_experimental
/product="cytochrome P450"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       gene id: MOJ9.9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     codon start=1
                                                                                                                                                                                                   CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /codon start=1
/voidence=not_experimental
/voidence=not_experimental
/product="polygalacturonase inhibiting protein 1; PGIP1"
/protein_id="Balal1144.1"
/db_xref="nG1:9759542"
/dranslation="mbXTAILCLEIFFFLTTCLSXDLCNQNDKNTLLKIKKSLNNPY
HLASMDPQTDCCSWYCLEGGDATVNHRYTALTIFSGQISGQIPAEVGDLFYLETLVFR
KLSNLTGFIQPTIAKLGNLRMIRLSWTNLTGPIPDFISQLKNLEFLESRNDLSGSIP
SSLSTIPKTLALBLERNKLTGSIPESPSEPSPPDFISGLSNLFSGFIPENSGSIP
SSLSTIPKTLALBLERNKLGGSIPESPSEPSPFOTPDFISGSIPENSGSIP
SLSTARKLQGDASMLFGSNKTTWSIDLSRNMFQPDISKUPIPKTLGILDLNHNOITG
NIPVQWTEAPLQFFNVSYNKLCGHIPTGGKLQTFDSYSYFHNKCLCGAFLEICK"
/oodon_starf=1
/codon_starf=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /translation="MLWQKEGNRKGLASSDHDIPKSSDPKTLRRLAQNREAARKSRLR
KKAYVQQLESCRIKLTQLEQEIQRARSQGVFFGGSLIGGDQQQEAAVFDMEYARWLEE
QORLLANELRYAYQEHLSEHDENFYOFCLAHYDHLINIKAWYAKTDVFHLISGAWKTP
AERCFLWMEGRRPSEIIKVINQIEPLTTEQOIVGICGLQGAYGABEALSQGIBALNQ
SLSDEIVSDEILPPARALPPHLSNFWSHWSLALNKLSALEGFVLQADNIRHQTHRIN
QLLTTRQEARCLLAVAEYFHRLQALSSLWLARPRQDG"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /protein id="BAB11143.1"
/db_xref="G1:9759541"
/translation="MAAKDGAKSQEDYKLKDWKPELGERWFHGGQRGGTGWIGSERAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             KLTNLTGHTOFTTAKKNLTFERLSWINLTGPVPEFLSQLKNLEYIDLSFNDLSGSIP
SSLSSLRKLEYLELSRNKLTGPIPESFGTFSGKVPSLFLSHNQLSGTIPKSLGNDDFY
RIDLSRNKLQGDASILFGAKKTTWIVDISRNMFQFDLSKVKLAKTLNNLDMNHNGITG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /trānslation="MDKTMTLFLLSTLLLTTSLAKDLCHKDDKTTLLKIKKSLNNPY
HLASWDPKTDCCSWYCLECGDATVNHRVTSLIIQDGEISGQIPPEVGDLPYLTSLIFR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SIPAEWSKAYFQLLNVSYNRLCGRIPKGEYIQRFDSYSFFHNKCLCGAPLPSCK"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /evidence=not_experimental
/product="anthranilate_phosphoribosyltransferase-like
                                                                                                                                | Join | 115 | Mitsui Pl | Join | 1187,1579 | Join | 1077 | July | Join | 1077 | July | Join | 1077 | July 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /evidence=not_experimental
/product="polygalacturonase inhibiting protein"
/protein_id="BAB11145.1"
/db_xref="GI:9759543"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                similar to unknown protein"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          complement (6176. .8560)
/note="gene_id:MOJ9.2"
/codon_start=1
'db_xref="taxon:3702"
'chromosome="5"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAF63169.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        id:MOJ9.3"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       id:MOJ9.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                14719. .14919
                                                                                                 clone="MOJ9"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                protein"
```

CDS

CDS

CDS

/product="cycloaincome" 4950"
/protein_id="BABIL14"."
/db_xref="d1:9759545"
/translation="WYDLORIFUNILVCGITVLIQAITURIRDRLPLPRSPTALPII
/db_xref="d1:9759545"
/translation="WYDLORIFUNILVCGITVLIQAITURIRDRLPLPSPTALPII
/GHIHLIGPIAHQALHKLIRIGENEMYENEMERRAQSDBOGGEREBENTIRVVELNEP
/UKKNAREESVIGAGEQLKELTSNIITRAMFRRAQSDBOGGEKEBENTIRVVELNELDEAG
/FRANSETFAPLIALDLOGTKELTRRIKARDKOVJIERIMEEHBSSKKNATGERNALDVI
LDIYEDKNAEMKLTRENIKAPIMNIYGGGTDTSAITVEWALABLINHPRIMKTAQDEI
/EQVVORTRKRVVEESDLCNLSYTQAVVKETYMRHHGGGTFVRESDECAVAGFRIPAKTR
VIVNVWAIGRDSNQMEDPLEFRPERFEGSEWKVMSEKWMSFRAMSFGGRRACPERAKTR
/UTAALIQCFELKVKKSSVDNUEGTGSSLPRATPLVCVPVAXZATGSFRLFPAKTR
VIVNVWAIGRDSNQMEDPLEFRPERFEGSEWKVMSEKWMSFCAGRRSCPGEKNVFFV
/NOTE="gene_idi:MOJ9.7"
/codon_start=i
/codon_start=i
/evidence=not_experimental
/product="cytochrome P450-like protein"
/product="cytochrome"
/translation="MFTLNIPRIKERNYKELOMTKLPRAGYQLDRFVDIREETLA"
/translation="MFTLNIPRIKERNYKELOMTKLPRAGYQLDRFVDIREETLA"
// LANDERSPURGEDLAHTYGELMTYTRILEAGNYMFKRCRONINIPRIKENTYRUTATTRILEAGNYMFKRCRONINIPRIKENTYRUTATTRILEAGNYMFKRCRONINIPRIKENTYRUTATTRILEAGNYMFKRCRONINIPRIKENTYRUTATTRILEAGNYMFKRCRONINIPRIKENTYRUTATTRILEAGNYMFKRCRONINIPRIKENTYRUTATTRILEAGNYMFKRCRONINIPRIKENTYRUTATTRILEAGNYMFKRCRONINIPRICTATTRILEAGNYMFKRCRONINIPRICTATTRILEAGNYMFKRCRONINIPRICTATTRILEAGNYMFKRCRONINIPRICTATTRILEAGNYMFKRCRONINIPRICTATTRILEAGNYMFKRCRONINIPRICTATTRILEAGNYMFKRCRONINIPRICTATTRILEAGNYMFKRCRUTATTRILEAGNYMFKRCRUTATTRILEAGNYMFKRCRUTATTRILEAGNYMFKRCRUTATTRILEAGNYMFKRCATTRILEAGNYMFKRCATTRILEAGNYMFKRCATTRILEAGNYMFKRCATTRILEAGNYMFKRCATTRILEAGNYMFKRCATTRILEAGNYMFKRCATTRILEAGNYMFKRCATTRILEAGNYMFKRCATTRILEAGNYMFKRCATTRILEAGNYMFKRCATTRILEAGNYMFKRCATTRILEAGNYMFKRCATTRILEAGN /evidence=not_experimental /product="DnaJ homologue" /product="DnaJ homologue" /product=in_id=maball149.1" /db xref="GI:9759549" /kranslation="MGRKKSRASTTEEDEIEMDNAGPSSETSLYEVLGVERRATSQE IRKAYHKLALKLEPDRNODDXEAKOKRQQLGVISILGDEEKAVPOGTGSIDDADIP GDAFENLADFRANDODXEAANYRGSESEKKOLLEFNKFRGKMRILFCSM LCSDPKLDGHRFKDMLDEAIAAGEVKSSKAYEKWANKISETKEPTSPIRKKKKKSAA KLOSTDALDCIMIAKRQEERKGKVDSNFSSLISRYGGDAEAEPTEEFFRAAGRRIESKRK PSKKSRGW" 21834. .22895 join(24115. .24544,24743. .25145,25239. .25425,25504. .25713, 25795. .25568,26052. .26216,26328. .26441,26535. .26825) /note="WPJAAD23715.1 gene_id:MOJ9.10 /evidence=not_experimental /protein_id="BAB11146.1" /db_xref="G1:9759544" /translation="MVSVPPVWDGQVIEITVQSLSENVASLKEKVANXLKLRGKAGIL /codon_start=1
/codon_start=1
/paidence=not_experimental
/protein_id="BBB11150.1"
/db_xref="G1:9759548"
/db_xref="G1:9759548"
/translat_ion="WGCCSSDCFVYFILSIALAFWAISTTLRSPPDSEPTIPIAFSSS
SPSISLNASNTLRQSNFKAIATLLHISPETIESSSPNTTLFAIEDASFFNTSSLHPLF
LKQLHAFHTLDLMASNDLLKKPGGTCLPTLHHKSVQISTVNQESRTAEVHHYRITH
PDMFLGDSIVIHGVIGPFSPLOPHSDHLIHTPLCQSDTINKTSNNEEVPVSIDWTRIV QLLSSNGFVPFAIGLASVLNRIVNDHNHKNLTGVTILATPNLVSLSSASPFLYEVVR HHILVQRLTYKDFASMSDKATVKTLDPYQDLTITRNVNSSGGDFMISGVEIVDPDMF SSSNFVIHGISHTLEIPHV" KDDDKSLAHYNVRAGDILTLSW"
complement (join(15136. .15762,16005. .16901))
/note="gene_id:MOJ9.6"
/cdon_start=1

ઠે g ò ВÞ 8 G ઠે 셤 ò d ò d ò g ò 임 ठे g ò Б à

```
Aranicophyta; Embryophyta; Embryophyta; Tracheophyta; Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; Losint, eurosids II; Brassicales; Brassicaceae; Arabidopsis.

CE 1 (bases 1 to 1270)

RS Shinn, P., Chen, H., Carnind, P., Dale, J.M., Goldsmith, A.D., Hayashizaki, Y., Ishida, J., Iam, P., Jones, T., Kamiya, A., Karlin-Neumann, G., Kawai, J., Lam, B., Lee, J.M., Lin, J., Lin, S.X., Miranda, M., Narusaka, M., Ondora, C.S., Palm, C.J., Phan, P.K., Quach, H.L., Sakurai, T., Satou, M., Seki, M., Southwick, A., Shinozaki, K., Davis, R.W., Theologis, A. and Ecker, J.R.

Arabidopsis cDNA clones

AL Unpublished

CE Shinn, P., Chen, H., Cheuk, R., Kim, C.J., Koesema, E., Meyers, M.C., Banh, J., Bowser, L., Carninci, P., Dale, J.M., Goldsmith, A.D., Hayashizaki, Y., Ishida, J., Jiang, P.X., Jones, T., Kamiya, A., Karlin-Neumann, G., Kawai, J., Lam, B., Lee, J.M., Lin, J., Liu, S.X., Miranda, M., Narusaka, M., Nguyen, M., Onodera, C.S., Palm, C.J., Karlin-Neumann, G., Kawai, J., Lam, B., Lee, J.M., Lin, S., Ku, S., Karlin-Neumann, G., Rawai, J., Lam, B., Lee, J.M., Lin, S., Shinozaki, K., Davis, R.W., Theologis, A. and Ecker, J.R., Shinozaki, K., Davis, R.W., Theologis, A. and Ecker, J.R., Shinozaki, K., Davis, R.W., Theologis, A. and Ecker, J.R., Shinozaki, K., Davis, R.W., Theologis, A. and Ecker, J.R., Shinozaki, K., Davis, R.W., Theologis, A. and Ecker, J.R. Shinozaki, K., Submitted (22-AdG-2001) Salk Institute Genomic Analysis Laboratory USA Shinozaki, P. Plant Biology Laboratory, The Salk Institute for Shina, R. Biological Studies, 10010 N. Torrey Pines Road, La Jolla, CA 92037, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Shinn, P. (SSP/Salk) and Seki, M. (RIKEN GSC) contributed equally to this work. Shinozaki, K. (RIKEN GSC) and Ecker, J.R. (SSP/Salk) contributed equally to this work as Pis.

Location/Qualifiers

Location/Qualifiers

/ organism="Arabidopsis thaliana"
/ / organism="Arabidopsis thaliana"
/ db xref="teaxon:3702"
/ chromosome="5"
TTTCGGAAAGGAGAAGTGAGTGATTGGGGTTAACTATTTGTCACCTTCACAAGTGGAAAGA 1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  The Salk, Stanford, PGEC (SSP) Consortium members carried out the sequencing and annotation of the RAFL cDNAs: Shinn, P., Chen, H., Chenk, R., Kim, C.J., Koesema, E., Meyers, M.C., Banh, J. Bowser, J., Dale, J.M., Goldsmith, A.D., Jiang, P.X., Jones, T., Karlin-Neumann, G., Lam, B., Lee, J.M., Lin, J., Liu, S.X., Miranda, M., Nguyen, M., Onodera, C.S., Pallm, C.J., Paham, P.K., Quach, H.L., Southwick, A., Tang, C.C., Toriumi, M., Yamada, K., Yamanura, Y., Yu, G., Yu, S., Davis, R.W., Theologis, A., and Ecker, J.R.
                                                                                                                                                                                                                                                                                 AY054219 1270 bp mRNA linear PLN 30-SEP-2001
Arabidopsis thaliana AT5g07010/MOJ9_18 mRNA, complete cds.
AY054219
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RIKEN Genomic Sciences Center (GSC) members carried out the collection and clustering of RAFL CDNAS (RAFL CDNA: 'RIKEN Arabidopsis Full-Length CDNA'): Seki,M., Narusaka,M., Ishida,J., Satou,M., Kamiya,A., Sakurai,T., Carninci,P., Kawai,J., Hayashizaki,Y. and Shinozaki,K.
                                                                                                                               TIGICAGCCTIAGIGGAIGACAAGIIAGGIGGAICIGGICICACTITICAGGIIGAGC 1077
                              /clone="RAFL09-22-M04(R13921)"
/ecotype="Columbia"
1. .67
                                                                                                                                                                                                                                                                                                                                                                                             FLI CDNA.
Arabidopsis thaliana (thale cress)
Arabidopsis thaliana
                                                                                                                                                                                                                                                                                                                                                                    AY054219.1 GI:15809902
           961
                                                                                                              1021
                                                                                                                                                                                                                                           RESULT 5
AY054219
LOCUS
DEFINITION
ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TITLE
JOURNAL
REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMMENT
                                                    g
                                                                                                           à
                                                                                                                                                                음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              54536
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              54236
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          54116
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      54836
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   54596
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AGICCAAGAACGIICGCAACCCACIIIACCGIICGGIICCCIAAAGGAAACGAICGAGAAA 54476
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                54416
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      54356
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             54296
                                                                                                                                                                                                                                                                                               54956
                                                                                                                                                                                                                                                                                                                                                                                                      54896
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                54776
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      54716
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            54656
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      900
                                                                                                                                                                                                                                                                                                                                                                                                                                                       180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         901 AAGAAGTIGGAGGIGAACAAGICAACAACAACATCAAGAACTITGAGAAICGAITCIIG 960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              900
                                                                                                                                                                                                                                             9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GATCCGGTTGCCTCGAGTACCAACCACCTCTTTTCACTTCCAACCCTCATGACCTTGTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AGTCCAAGAACGTTCGCAACCCACTTACCGTTCGCTTCCCTAAAGGAAACGATCGAGAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GATCTGTATTGCCGGGGGGGGGTTTGGCCCGTTTTGGGAACACATGTTGGGATAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GGGCTAAGCTGCGAGTTCCCAAGAGATGTTGGATTCTCTTCCTAAGGAGAGAGGATGGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              181 ACTCGTTACCTTTACCTATTCCAAGGGTTTTGGTGCCAAGCCAAAGAGATTCAAGCCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         54835 ACTCGTTACCTTTACCTATTCCAAGGGTTTTGGTGCCAAGGAGAATTCAAGCCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAATCGGTACAACCTGGCTAAAAGCTTTAACTTTCACCATCCTTAACGTCACGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            54715 AAATCCGGTACAACCTGGCTAAAAGCTTTAACTTTCACCATCCTTAACCGTCACCGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GATCCGGTTGCCTCGAGTACCAACCACCTCTTTTCACTTCCAACCCTCATGACCTTGTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CCTTTCTTCGAGTACAAGCTTTACGCCAACGAGATGTTCCCCGATCTCTCGGGTCTAGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                54475 cccccicicaaccicciciatacriciccccaaacccciricacacarricarcricitac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CATTACACCAACAACATCAAATCCGAGTCAGTGAGCCCAGTCTTGCTAGACCAAGCTTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      661 GATCTGTATTGCCGGGGAGTGATCGGGTTTGGCCCGTTTTGGGAACACATGTTGGGATAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TGGAGAGAGCTTGAAGAGACCAGAAAGTCTTCTTTTAAGGTACGAGGATCTCAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GACGACATCGAGACCAACTTGAAGAGGCTTGCAACTTTCTTAGAGCTTCCTTTCACCGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         841 GAAGAGGAACGAAAGGGAGTTGTGAAGGCTATCGCCGAGCTGTGTAGCTTCGAGAATCTG
                                                                                                                                                                                                                                                1 ATGGCTACCTCAAGCATGAAGAGCATTCCAATGGCGATCCCAAGTTTCTCCATGTGTCAC
                                                                                                                                                                                                                                                                                                                                                 61 AAGCTCGAGCTCCTTAAAGAAGGCAAAACTCGCGACGTCCCGAAAGCCGGAAGAAGATGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATGTCTTTCCAAAACATTTCCAATCCCTCGAAAACGACGTCGTTCTCGCCACCATACCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CCCGGTGTGAAGGTCGTGTACTTGTGCCGGAACCCGGTTGACACATTCATCTTCGTGG
                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                 ö
                                                                                                                                             8; Length 86380;
                                                                                                                                                                                 0, Indels
                                                                                                                                             80
                                                                                                                                          Ouery Match
100.0%; Score 1077;
Best Local Similarity 100.0%; Pred. No. 0;
Matches 1077; Conservative 0; Mismatches
                /codon_start=1
/evidence=not_experimental
/protein_id="BAB11151.1"
/db_xref="G1:9759549"
                                                                                                                                                                                                                                                                                                                                                                                                                                                             121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        54655
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              54595
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  54535
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  54355
```

g

8 % 8

ŏ

g

ò

ò

us-10-019-931-1.rge

196

```
United Unimashon
Malibu, CA 90265, USA
This clone sequence is one of 5,000 Ceres full-length cDNAs made available to TIGR and Genbank. The following quality assessment of this set was done by comparison with known proteins: two percent the clones are estimated to be 5'-truncated; less than one percent are 3'-truncated; approximately two percent represent alternative pplice variants, including unspliced introns and spliced exons; one percent may contain premature stop codons; five percent may have frame shifts in a coding region. A sequence is considered to be 5'-truncated if it lacks the translation initiation start (ATG). A sequence is considered to be 3'-truncated if it lacks the co-terminal end of the encoded protein. Please note that these CDNA sequences are derived from the Ws or Lake cocypes and therefore may contain polymorphisms when compared to sequences from CO1-0. Genset carried out the library production and sequencing of the full-length clones. Ceres, Inc. carried out the clustering of the cocates selection of clones, and sequence assembly.
                                                                                                                                                                                                                                                                                                         TITCGGAAAAGGAAAGTGAGTGATTGGGTTAACTATTTGTCACCTTCACAAGTGGAAAGA 1020
                                                                                                                                                                                                                              1028 TITCGGAAAGGAGAAGTGAGTGATTGGGTTAACTATTTGTCACCTTCACAAGTGGAAAGA 1087
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PLN 14-APR-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FII CDNA.
Arabidopsis thaliana (thale cress)
Arabidopsis thaliana
Arabidopsis thaliana
Bukaryota, Viridiplantae, Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots;
rosids; eurosids II; Brassicales; Brassicaceae; Arabidopsis,
I (bases I to 1273)
848 GACGACATCGAGGACCAACTIGAAGAGCTIGCACTITCTIAGAGCTICCTITCACCGAA 907
                                                                                                                                                                                              901 AAGAAGTIGGAGGIGAACAAGICAAACAAGICGAICAAGAACTITIGAGAAICGAITICTIG 960
                                                                                                                                                                                                                                                                                                                                                                                                              1021 TTGTCAGCCTTAGTGGATGACAAGTTAGGTGGATCTGGTCTCACTTTCAGGTTGAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                             1088 TTGTCAGCCTTAGTGGATGACAAGTTAGGTGGATCTGGTCTCACTTTCAGGTTGAGC 1144
                                                                                                                   Brover, V., Troukhan, M., Alexandrov, N., Lu, Y.-P., Flavell, R. and
Feldmann, K.
                                                                                   GAAGAGGAACGAAAGGGAGTTGTGAAGGCTATCGCCGAGCTGTGTAGCTTCGAGAATCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Haas, B.J., Volfovsky, N., Town, C.D., Troukhan, M., Alexandrov, N. Feldmann, K.A., Flavell, R.B., White, O. and Salzberg, S.L. Full-length messenger RNA sequences greatly improve genome
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Flavell, R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Arub4999 1273 bp mRNA linear PLN 14
Arabidopsis thaliana clone 124067 mRNA, complete sequence.
AY084999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Troukhan, M., Alexandrov, N., Lu, Y.-P.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Full-Length cDNA from Arabidopsis thaliana Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Genome Biol. 3 (6), RESEARCH0029 (2002)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /mol_type="mRNA"
/db_xref="taxon:3702"
/clone="124067"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AY084999.1 GI:21403709
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (bases 1 to 1273)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (bases 1 to 1273)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Brover, V., Feldmann, K.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             annotation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DEFINITION
ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PUBMED
REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             JOURNAL
REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 6
AY084999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MEDLINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LOCUS
                                                                             ò
                                                                                                                         g
                                                                                                                                                                                        ò
                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                   à
                                                                                                                                                                                                                                                                                                                                                                                                              ઠે
                                     /codon_start=1
/product="AT5907010/MOJ9_18"
/product="AT5907010/MOJ9_18"
/product="AT5907010/MOJ9_18"
/product="AL68099.1"
/db_xref="G1:15809903"
/translation="MATSSMKSIPMAIPSFSMCHKLELLKEGKTRDVPKAEEDEGLSC
BFORMLALIPLISLURGKRYTRYLYLFOGFWCQARSIQAIMSFOKHFOSKIBNDVPLATIPKS
GTTWLKALIFILINRHRFDPVASSTNHPLFISNPHDLVPFFFYKLYANGDVPDLSGLA
SPRTFATHLDFGSLKETIEKGGVKVVYLCRNPPDTFISSWHYDNNIKSESVSPVLLDQ
AFDLYCROVIGFAPFWEHMLGYWRESLKRPEKVFFLRYEDLKDDIETHLKRLATFLEL
PFTEEERRGVVKAIABLCSFENLKKLEVNKSNKSIRNFENRFLFRKGEVSDWVNYLS
PSQVERLSALVDDKLGGSGLFFRLS"
1149 . 1270
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GGGCTAAGCTGCGAGTTCCAAGAGATGTTGGATTCTCTTCCTAAGGAGAAGAAGATGGAGA 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAGCTCGAGCTCCTTAAAGAAGGCAAAACTCGCGACGTCCCGAAAGCCGGAAGAAGATGAA 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          241 ATGICTITCCAAAACATTTCCAATCCCTCGAAAACGACGTCGTTCTCGCCACCATACCT 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAAICCGGTACAACCTGGCTAAAAGCTTTAACTTTCACCATCCTTAACCGTCACCGGTTT 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           547
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   607
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 667
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      727
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 787
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           847
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               09
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GACGACATCGAGACCAACTTGAAGAGGCTTGCAACTTTCTTAGAGCTTCCTTTCACCGAA 840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAGCTCGAGCTCCTTAAAGAAGGCAAAACTCGCGACGTCCCGAAAGAAGAAGATGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 ATGGCTACCTCAAGCATGAAGAGCATTCCAATGGCGATCCCAAGTTTCTCCATGTGTCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAATCGGGTACAACCTGGCTAAAAGCTTTAACTTTCACCATCCTTAACGGCTCACGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GATCCGGTTGCCTCGAGCCACCTCTTTTCACTTCCAACCCTCATGACCTTGTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AGTCCAAGAACGTTCGCAACCCACTTACCGTTCGGTTCCCTAAAGGAAACGATCGAGAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CCCGGTGTGAAGGTCGTGTACTTGTGCCGGAACCCGTTTGACACATTCATCTTTGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GAICTGIATTGCCGGGGAGTGATCGGGTTTTGGCCCCGTTTTGGGAACACATGTTGGGATAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      regagagagarchicaagagaccagagaagrcrrcrrrrraagarcheagarcrcaaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CCTTTCTTCGAGTACAAGCTTTACGCCAACGGAGATGTTCCCGGATCTCGGGTCTAGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   centriciticas da descrita de conseccio de la contra de co
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CATTACACCAACAACATCAAATCCGAGTCAGTGAGCCCCAGTCTTGCTAGACCAAGCTTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CATTACACCAACATCAAATCCGAGTCAGTGAGCCCAGTCTTGCTAGACCAAGCTTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TGGAGAGAGAGCTTGAAGAGACCAGAAAAGTCTTCTTTTAAGGTACGAGGATCTCAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 1270;
                    note="steroid sulfotransferase-like protein"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                  DB 8;
                                                                                                                                                                                                                                                                                                                                                                                                                            99.9%; Score 1075.4;
99.9%; Pred. No. 0;
ive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GATCCGGTTGCCTCGAGTACCAACCACCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity
Matches 1076; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             368
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              548
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     609
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      488
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                668
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        728
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   788
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            721
                                                                                                                                                                                                                                                                                                                             3'UTR
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Dp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 \delta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      \dot{\delta}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             qq
```

```
AK117202 1236 bp mRNA linear PLN 06-DEC-2002 Arabidopsis thaliana At5g07000 mRNA for purative steroid sulforransferase, complete cds, clone: RAFL16-75-F02. AK117202 1:26449503
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       An Arabidopsis full-length cDNA library was constructed essentially as reported previously (Seki et al. (1998) Plant J. 15:707-720; Seki et al. (2002) Science 296:141-145). cDNA cleaved with Bamkil and Khol was ligated to modified Lambda FLC-1-B vector (Carninci et al. (2001) Genomics 77:79-90) digested with Bamkil and Sall. Phis clone is in a modified pBluescript vector. Please visit our web site (http://pfgweb.gsc.riken.go.jp/) for further details.
                                                                                                                                             TITCGGAAAGGAGAAGTGAGTGAITGGGTTAACTAITTGTCACCTTCACAAGGGAAAGA 1020
                                                                                                                                                                                                                             1026 TITCGGAAAGGAGAAGTGAGTGATTAGGTTAACTAITTGTCACCTTCACAAGTGGAAAGA 1085
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /protein id="BAC41878.1"
/db xref="G1:26449504"
/translation="MAIPSFSMCHKPELLKEGKSEGQEEEGLSYEFQEMLDSLPKERG
                                                                                                               901 AAGAAGTTGGAGGTGAACAAGTCAAACAAGTCGATCAAGAACTTTGAGAATCGATTCTTG 960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Eukaryota, Viridiplantae, Streptophyta, Embryophyta, Tracheophyta, Spermatophyta, Magnoliophyta, eudicotyledons, core eudicots, rosids, eurosids II, Brassicales, Brassicaceae, Arabidopsis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Seki, M., Iida, K., Satou, M., Sakurai, T., Akiyama, K., Ishida, J., Nakajima, M., Enju, A., Kamiya, A., Narusaka, M., Carninci, P., Nawai, J., Hayashizaki, Y. and Shinozaki, K. Arabidopsis thaliana full-length CDNA.

Published Only in Database (2002)

E. (basea I to 1236)
Seki, M., Iida, K., Satou, M., Sakurai, T., Akiyama, K., Ishida, J., Nakajima, M., Enju, A., Kamiya, A., Narusaka, M., Carninci, P., Nakajima, M., Enju, A., Kamiya, A., Narusaka, M., Carninci, P., Direct Submission Motoaki Seki, RIKEN Genomic Sciences Submission Motoaki Seki, RIKEN Genomic Sciences Center: 1-7-22 Suehiro-cho, Tsurumi-ku, Yokohama, Kanagawa Center: 1-7-22 Suehiro-cho, Tsurumi-ku, Yokohama, Kanagawa URL, http://pigweb.gsc.riken.go.jp, Tel:81-45-503-9625, Fax:81-45-503-9589)
                                                                                                                                                                                                                                                                                                                                1086 TIGTCAGCCTTAGTGACAAGTTAGGTGGATCTGGTCTCACTTTCAGGTTGAGC 1142
                                                                                                                                                                                                                                                                                                   1021 TTGTCAGCCTTAGTGGATGACAAGTTAGGTGGATCTGGTCTCACTTTCAGGTTGAGC 1077
                                            GAAGAAGGAAAGGAGTTGTGAAAGGCTATCGCCGAGCTTGTGTGTTCGAGAATCTG
                   GAAGAGGAAGGAAGTTGTGAAGGCTATCGCCGAGCTGTGTAGCTTCGAGAATCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /product="putative steroid sulfotransferase"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /note="common name: thale cress"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FLI CDNA, CAP trapper.
Arabidopsis thaliana (thale cress)
Arabidopsis thaliana
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     66. .1109 ____/gene="At5g07000/MOJ9_17"
/codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    'gene="At5g07000/MOJ9_17"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /clone="RAFL16-75-F02"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /mol_type="mRNA"
/culfivar="Columbia"
/db_xref="taxon:3702"
/chromosome="5"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1. .1236
                                                                                                                                                                                                         196
                                                                906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                               LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ACCESSION
VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             gene
                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 7
AK117202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMMENT
                                                                g
                                                                                                               à
                                                                                                                                                          g
                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                   ઠ
                                                                                                          /tränslation="MATSSMKSIPNAIPSPSMCKLELLKEGKTRUVPKAEEDBGLSC
EPGBMLDSLPFKERGMRTRYLTEGGFREWCQAKETGAINSFGKHFQSLENDVLATIPRS
GTTWAKKALTFTILMRHEDPVASSTWHPLFTENPHDLVPFFFFYKLYANGDVPDLSGLA
SPRTFATHLPFGSLKETIEKPGVKVVYLCRNPFDTFISSWHYTNNIKSESVSPVLLDQ
PFDLYCRQVUGGFPFREMLGYWRESLKRPERKYFILKYEDLKDDIETHLKRLATFLED
PFDERERRGVVKATAELCSPENLKKLEVNKSNKSIKNFENRFERKGEVSDWYNYLS
PSQVERLSALVDDKLGGGGGLIFFLS"
                                                                                                                                                                                                                                                                                                                                                                      ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               425
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         485
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                ATGCCGACCTCAAGCATGAAGAGCATTCCAATGGCGATCCCAAGTTTCTCCATGTGTCAC 125
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAGCTCGAGCTCCTTAAAGAAGGCAAAACTCGCGACGTCCCGAAAGCCGAAGAGAGATGAA 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       126 AAGCTCGAGCTCCTTAAAGAAGGAAAAGCCAAAACTCGCGACGTCCCGAAAGCCGAAGATGAA 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     545
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                241 AIGTCTTTCCAAAACATTTCCAAICCCTCGAAAACGACGTCGTTCTCGCCACCATACCT 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CCTTTCTTCGAGTACAAGCTTTACGCCAACGGAGATGTTCCCGGATCTCTCGGGTCTAGCC 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              605
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 725
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        726 GAICTGTATTGCCGGGGGGGTGATCGGGTTTGGCCCGTTTTGGGAACACATGTTGGGATAC 785
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 781 GACGACATCGAGACCAACTTGAAGAGGCTTGCAACTTTCTTAGAGCTTCCATTTCACCGAA 840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        846 GACGACATCGAGACCAACTTGAAGAGGCTTGCAAACTTTCTTAGAGCTTCCTTTCACGGAA 905
                                                                                                                                                                                                                                                                                                                                                                                                                     09
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CATTACACCAACAACATCAAATCCGAGTCAGTGAGCCCAGTCTTGCTAGACCAAGCTTTT 660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     721 TGGAGAGAGGTTGAAGAGACCAGAGAAGTCTTCTTTTAAGGTACGAGGATCTCAAA 780
                                                                                                                                                                                                                                                                                                                                                                                                                  ATGGCTACCTCAAGCATGAAGAGCATTCCAATGGCGATCCCAAGTTTCTCCCATGTGTCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              366 AAATCCGGTACAACCTGGCTAAAGCTTTAACTTTCACCATCCTTAACGGTACGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GATCCGGTTGCCTCGAGTACCAACCACCTCTTTTCACTTCCAACCCTCATGACCTTGTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   186 TGGAGAGAGCTTGAAGAGCCAGAGAAAGTCTTCTTTTTAAGGTACGAGGATCTCAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAATCCGGTACAACCTGGCTAAAAGCTTTAACTTTCACCATCCTTAACCGTCACCGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GATCCGGTTGCCTCGAGTACCAACCACCTCTTTTCACTTCCAACCCTCATGACCTTGTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AGTCCAAGAACGTTCGCAACCCACTTACCGTTTCGGTTCCCTAAAGGAAACGATCGAGAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            546 AGTCCAAGAACGTTCGCAACCCACTTACCGTTCGCTTCCTTAAAGGAAACGATCGAGAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CCCGGTGTGAAGGTCGTGTACTTGTGCCGGAACCCGTTTGACACATTCATCTTTGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     cccedigramadercererationecedaacceerrreacacarrearerrererrege
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                certretresagracaaserrraesecaaessagarsreessareresssererasee
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CATTACACCAACAACAACAACAAATCCGAGTCAGTGAGCCCCAGTCTTGCTAGACCAAGCTTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GATCTGTATTGCCGGGGAGTGATCGGGTTTGGCCCGTTTTGGGAACACATGTTGGGATAC
                                                                                                                                                                                                                                                                                                                                                                        0; Gaps
                                          /product="steroid sulfotransferase-like protein"
/protein_id="AAM61557.1"
/db_xref="GI:21537216"
                                                                                                                                                                                                                                                                                                                      99.7%; Score 1073.8; DB 8; Length 1273; 99.8%; Pred. No. 0; 99.8%; Pred. O; Mismatches 2; Indels 0;
                   /codon_start=1
                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity 99.8%;
Matches 1075; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                               99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         246
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         426
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  486
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        909
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           541
CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                     엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   \overset{\circ}{\circ}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      업
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                .
PD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          dd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8
```

g

ò

8 8

8 8 8 8

σ

RRNRYLYLFQGFRCQAKEIQAITSFQKHFQSLPDDVVLATIPKSGTTWLKALTFTILT
RHRFDPVSSSSSDHPLLTSNPHDLVPFFEYKLYANGNVPDLSGLASPRTFATHVPFGA
LKDSYBNPSVKVYLCRNPFDFFISWHYINNITSESVSAVLLDEAFDLYCRGLLIGF
GLFDSYBHWHGYMESLKRPEKVLFLKYBDLKEDIETNLKKLASFLGLPFTEBEEQKGVV
KAIADLCSFENLKKLEVNKSSKLIQNYENRFLFRKGEVSDLVNYLSPSQVERLSALVD
DKLAGSGLTFRLS" 104 129 152 189 249 272 369 212 309 392 426 486 546 909 69 332 512 572 632 999 ATCAACAACAACATCACTTCCGAGTCAGAGCGCAGTCTTGCTAGAACGAAGCTTTTGATCTA 692 723 752 AGAGAGAGCITGAAGAGCCAGAGAAGICTTCTTTTAAGGTACGAGGATCTCAAAGAC 783 812 843 872 903 932 963 TCAAGCATAAAGAGCATTCCAATGGGGATCCCAAGTTTCTCCATGTGTCACAAGCCCGAG CTTTACTTATTCCAAGGTTTCGGTGCCAAGCTAAGGAGATTCAAGCTATCACGTCTTTC TATTGCCGGGGATTACTGATCGGATTTGGCCCGTTTTGGGAACACATGTTGGGATACTGG TCAAGCATGAAGAGCATTCCAATGGCGATCCCAAGTTTCTCCAATGTGTCACAAGCTCGAG CTCCTTAAAGAAGCAAAACTCGCGACGTCCCGAAAGAGCCGAAGATGAAGGCCTAAGC CAAAAACATTTCCAATCCCTCGAAAACGACGTCGTTCTCGCCACCATACCTAAATCCGGT CAAAAACATTTTCAGTCCCTTCCAGACGACGTTGTCCTCGCCACCATACCTAAATCTGGC ACAACCTGGCTAAAAGCTTTAACTTTCACCATCCTTAACCGTCACCGGTTTGATCCGGTT TTCGAGTACAAGCTTTACGCCAACGGAAATGTTCCCGATCTCCGGGTCTAGCCAGTCCA ACCAACAACATCAAATCCGAGTCAGTGAGCCCAGTCTTGCTAGACCAAGCTTTTTGATCTG TATTGCCGGGG---AGTGATCGGGTTTGGCCCGTTTTGGGAACACATGTTGGGATACTGG AGAGAGAGCTTGAAGAGGCCAGAGAAAAGTCTTATTTTAAAGTACGAGGGTCTCAAAGAA GACATCGAGACCAACTTGAAGAGGCTTGCAACTTTCTTAGAGCTTCCTTTCACCGAAGAA CTITACCIATICCAAGGGTTTTGGTGCCAAGGAGATTCAAGCCATCATGTCTTTC ACAACCIGGITAAAAGCITIAAACITICACCAICCITACCGGICAICGGITIGAITCGGIT GCC---TCGAGTACCAACCACCTCTTTTCACTTCCAACCCTCATGACCTTGTACCTTTC AGAACGITCGCAACCCACTTACCGTTCGGTTCCCTAAAGGAAACGATCGAGAAACCGGT GACATCGAGACCAACTTGAAGAAGCTAGCAAGCTTCTTAGGACTTCCTTTCACCGAAGAA GAGGAACGAAAGGGAGTTGTGAAGGCTATCGCCGAGCTGTGTAGCTTCGAGAATCTGAAG GAGGAACAAAAGGGAGTTCTCAAAGCTATCGCTGATCTCTCTGTAGCTTTGAGAATCTGAAG TTCGAGTACAAGCTTTACGCCAACGGAGATGTTCCCCGATCTCGGGTCTAGCCAGTCCA AAGTIGGAGGIGAACAAGTCAAAGTCGAICAAGAACTTIGAGAAICGAIICTIGIII Gaps 18; Score 863; DB 8; Length 1236; Pred. No. 2.2e-256; 0; Mismatches 90; Indels 1 sch al Similarity 89.9%; 965; Conservative 10 Query Match Best Local 3 45 20 105 130 153 190 213 250 273 310 333 370 393 453 487 513 573 607 633 667 813 904 427 547 693 724 753 784 844 Matches

g

8 B 8

g

8 6

8 6 8 6 8 6 8 6 8 6

1052 22-FEB-2001 'n, Arabidopsis thaliana
Arabidopsis thaliana
Bukaryota, Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; rosids; eurosids II; Brassicales; Brassicaceae; Arabidopsis. 992 150 210 168 270 330 288 G------AAGGCCAAGAAGAAGAAGGCTAAGCTACGAGTTCCAAGAGATGTTG 108 228 387 ACTITCACCAICCTIACCGGTCAICGGTITGAICCGGTITCCTCAICAAGTICCGACCAC 348 447 408 507 468 90 9 993 AGGAAAGGAGAAGTGAGTTTGGTTAACTATTTGTCGCCATCACAAGTGGAAAGATTG Methods, compositions and genetic sequences for modulating flowering in plants, and plants genetically modified to flower farly and tardily Patent: WO 0102599-A 3 11-JAN-2001; Varin, Luc (CA); Gidda, Satinder (CA) CGGTGCCAAGCTAAGGAGTTCAAGCTATCACGTCTTTCCAAAAAACATTTTCAGTCCCTT CGGAAAGGAGAAGTGAGTGATTGGGTTAACTATTTGTCACCTTCACAAGTGGAAAGATTG CGCGACGTCCCGAAAGAGAAGATGAAGGCTAAGCTGCGAGTTCCAAGAGATGTTG GATTCTCTTCCTAAGGAGAGGATGGAGAACTCGTTACCTTTACCTATTCCAAGGGTTT GACTCTCTTCCTAAGGAGAGACGAGAAATCGTTACCTTTACTTATTCCAAGGGTTT TGGTGCCAAGCCAAAGAGTTCAAGCCATCATGTCTTTCCAAAAACATTCCAATCCCTC GAAAACGACGTCGTTCTCGCCACCATACCTAAATCCGGTACAACCTGGCTAAAAGCTTTA CCAGACGACGATGTCCTCGCCACCATACCTAAAATCTGGCACAACCTGGTTAAAAGCTTTA ACTITICACCATCCTTAACCGTCACCGGTTTGATCCGGTTGCC---TCGAGTACCAACCAC CCTCTTCTCACATCCAACCCTCACACCTCGTACCTTTCTTCGAGTACAAGCTTTACGCC CCTCTTTTCACTTCCAACCCTCATGACCTTGTACCTTTCTTCGAGTACAAGCTTTACGCC Gaps 1076 TCAGCCTTAGTGGATGACAGTTAGGTGGATCTGGTCTCACTTTCAGGTTGAG PAT 18; Length 1041; linear Indels 78.3%; Score 843.6; DB 6; 89.8%; Pred. No. 2.3e-250; ive 0; Mismatches 89; s thaliana" DNA" DNA AX080460 1041 bp Sequence 3 from Patent W00102589, AX080460 AX080460.1 GI:13159886 1. .1041 /organism="Arabidopsis /mol_type="unassigned D /db_xref="taxon:3702" Varin, L. and Gidda, S. Methods, compositions Conservative Local Similarity les 945; Conser Query Match Best Local Si Matches 945; 964 1024 211 91 31 Н 61 151 109 169 271 229 289 349 933 331 388 448 409 RESULT 8
AX080460
LOCIOS
DEFINITION
ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM source REFERENCE AUTHORS TITLE JOURNAL PEATURES DRIGIN 셤 g & 8 g ŝ 셤 $\dot{\delta}$ 8 6 8 6 8 6 8 ò g à g

to

g

ે

Db 8 P ð g à g à g ઠે

```
LKDSVENPSVKVVYLCRNPFDTFISMM+YINNITSESVSAVLLDEAFDLYCRGLIGG
GPFWEHMLGYWRESLIKPEKVLELKYEDLKEDIETNIKKLASFLGLPFTEEEBCKGVV
KAIADLCSFENLKKLEVNKSSKLIQNYENRFLFRKGEVSDLVNYLSPSQVERLSALVD
DKLAGSGLTFRLS"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /protein id="AAP12890.1"
/db xref="G1:30017313"
/translation="MAIPSFSMCHKPELLKEGKSEGQEEEGLSYEFQEMLDSLPKERG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RRNRYLYLFOGFRCOAKEIQAITSFOKHFOSLPDDVVLATIFKSGTTWLKALTFTILT
RHRFDDVSSSSSDHPLLTSNPHDLVPFFEXKLYANGNVPDLSGLASPRTFATHVFFGA
Ecker,J.R.

Direct Submission
Submitted (17-APR-2003) Salk Institute Genomic Analysis Laboratory
Submitted (17-APR-2003) Salk Institute for
(SIGnAL), Plant Biology Laboratory, The Salk Institute for
Biological Studies, 10010 N. Torrey Pines Road, La Jolla, CA 92037,
                                                                                                         collection and clustering of RAFL cDNAs (RAFL cDNA : 'RIKEN Arabidopsis Full-Length cDNA') : Seki,M., Narusaka,M., Ishida,J., Satou,M., Kamiya,A., Sakurai,T., Carninci,P., Kawai,J., Hayashizaki,Y. and Shinozaki,K.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACTITCACCATCCTTAACCGTCACCGGTTGATCCGGTTGCC---TCGAGTACCAACCAC 387
                                                                                                                                                                                                                                                                                               The Salk, Stanford, PGEC (SSP) Consortium members constructed and sequenced the pUNI (ORF) clones using the RAFL cDNAs: Kim,C.J., Chen,H., Cheuk,R., Shinn,P., Bowser,L., Chan, M.M., Chang,C.M., Lin,Hsuan,V.W., Jones,T., Karlin-Neumann,G., Lam,B., Lee,J.M., Lin,J., Miranda,M., Nguyen,M., Onodera, C.S., Palm,C.J., Quach,H.L., Southwick,A., Tang,C.C., Toriumi,M., Wong,C., Wu,H.C., Yamada,K., Yu,G., Yuan,S., Davis,R.W., Theologis,A., and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Kim,C.J. (SSP/Salk) and Seki,M. (RIKEN GSC) contributed equally
this work. Shinozaki,K. (RIKEN GSC) and Ecker,J.R. (SSP/Salk)
contributed equally to this work as PIs.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ATCCCGATCCCAAGTTTCTCCCATGTGTCACAAGCTCGAGCTCCTTAAAGAAGGCAAAACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      G------AAGGCCAAGAAGAAGAGCTAAGCTACGAGTTCCAAGAGATGTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 aredeceareceaagrirerecarerereacaagecegagerecriraaggaaggeaaage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                109 GACTCTTCCTAGGAGAGAGAGGACGGAGAATCGTTACCTTTACTTATTCCAAGGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               169 cediecchaecthaechaetrchaecthrchaetrirchahahachtrichaetrir
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   91 CGCGACGTCCCGAAAGCCGAAGAAGATGAAGGCTAAGCTGCGAGTTCCAAGAGATGTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            151 GATTCTTCCTAAGGAGGAGGATGGAGAACTCGTTACCTTTACCTATCCAAGGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TGGTGCCAAGCCAAAGAGATTCAAGCCATCATGTCTTTCCAAAAACATTTCCAATCCCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     271 GAAAACGACGTCGTTCTCGCCACCATACCTAAATCCGGTACAACCTGGCTAAAAGCTTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     18; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 1044;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         'note="putative steroid sulfotransferase"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  78.3%; Score 843.6; DB 8; 89.8%; Pred. No. 2.3e-250; ative 0; Mismatches 89;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1. .1044
/organism="Arabidopsis thaliana"
/mol_type="MRNA"
/db_xref="taxon:3702"
/chromosome="5"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /ecotype="Columbia"
/note="This clone is in pUNI 51"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /codon_start=1
/product="At5g07000"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /clone="U60156"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1. .1044
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ecker, J.R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           945;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         211
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             331
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Best Loca
Matches
                           TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FEATURES
                                                                                                                                                        COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              쉱
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  名
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        \dot{\delta}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Bukaryots, unallana Bukaryots, unidiplantae, Streptophyta, Embryophyta, Tracheophyta, Bukaryots, unidiplantae, Streptophyta, Eudicotyledons, core eudicots, rosids; eurosids II, Brassicales; Brassicaceae, Arabidopsis.

I (bases I to 1044)

Xim C.J., Chen, H., Cheuk, R., Shinn, P., Bowser, L., Carninci, P., Chan, M.M., Chang, C.H., Dale, J.M., Hayashizaki, Y., Hsuan, V.W., Ishida, J., Jones, T., Kamiya, A., Karlin-Neumann, G., Kawal, J., Ishida, J., Jones, T., Kamiya, A., Karlin-Neumann, G., Kawal, J., Ish, M., Lin, J., Miranda, M., Narusaka, M., Nguyen, M., Southwick, A., Tang, C.G., Toriumi, M., Wong, C., Wu, H.C., Yamada, K., Zhin, S., Shinozaki, K., Davis, R.W., Theologis, A. and Ecker J.R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Z. (bases 1 to 1044)
Kim, C.J., Chen, H., Cheuk, R., Shinn, P., Bowser, L., Carninci, P.,
chan, M. M., Chang, C.H., Dale, J.M., Hayashizaki, Y., Hsuan, V.W.,
Lahda, J., Jones, T., Kanta, A., Karlin-Neumann, G., Kawai, J.,
Lam, B., Lee, J.M., Lin, J., Miranda, M., Narusaka, M., Nguyen, M.,
onodera, C.S., Palm, C.J., Quach, H.L., Sakurai, T., Satou, M., Seki, M.,
Southwick, A., Tang, C.C., Toriumi, M., Wong, C., Wu, H.C., Yamada, K.,
Yu, G., Yuan, S., Shinozaki, K., Davis, R.W., Theologis, A. and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TGGGTTAACTATTTGTCACCATCACAAGTGGAAAGATTGTCAGCCTTAGTGGATGACAAG 1044
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          949 traditrakciarirgicaccarcacaadragaadarigicagcciradigadadad 1008
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PLN 17-APR-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        948
                                                                                                                                                                                                                                                                                    648
                                                                                                                                                                                                                                                                                                                                                                                      708
                                                                                                                                                                                                                                                                                                                                                                                                                                          804
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              864
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            769 AAGCTAGCAAGTTTCTTAGGACTTCCTTTCACCGAAGAAGAGGAACAAAAGGGAGTTGTG 828
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   888
                                                                              528
                                                                                                                                  627
                                                                                                                                                                                   588
                                                                                                                                                                                                                                    684
                                                                                                                                                                                                                                                                                                                                        744
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GAGAAAGTCTTATTTTAAAGTACGAGGATCTCAAAGAAGACATCGAGACCAACTTGAAG 768
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAGGCTATCGCCGAGCTGTGTAGCTTCGAGAATCTGAAGAAGTTGGAGGTGAACAAGTCA 924
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CGGAACCCGTTTGACACATTCATCTCCATGTGGCATTACATCAACAACAACATTCCGAG
                                                                                                                                                                                                                                    TCAGTGAGCCCAGTCTTGCTAGACCAAGCTTTTGATCTGTATTGCCGGGG---AGTGATC
                                                                                                                                                                                                                                                                                                                                        829 AAAGCTATCGCTGATCTGTGTAGCTTTGAGAATCTGAAGAAGTTGGAAGTGAACTAGTAGAAGTCAA
                                                                 CGTTCGGTGCCCTTAAGGATTCGGTCGAGATCCCAGTGTGAAGGTTGTGTACTGTGC
                                                                                                                                  CGGAACCCGTTTGACACATTCATCTTTCGTGGCATTACACCAACATCAAATCCGAG
                                                                                                                                                                                                                                                                                    rcagneaececaercrrecraeaeceaecrrrrearcrararrecceeecearracrearc
                                                                                                                                                                                                                                                                                                                                                                                                                                            GAGAAAGTCTTTTTAAGGTACGAGGATCTCAAAGACGACATCGAGACCAACTTGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AGGCTTGCAACTTTCTTAGAGCTTCCTTTCACCGAAGAAGAACGAAAGGGAGTTGTG
                                CCGTTCGGTTCCCTAAAGGAAACGATCGAGAAACCCGGTGTGAAGGTCGTGTACTTGTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Arabidopsis thaliana At5g07000 mRNA, complete cds. BT006241 BT006241 G1:30017312
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1045 TTAGGTGGATCTGGTCTCACTTTCAGGTTGAG 1076
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TTAGCTGGATCTGGTCTCACTTTCAGATTGAG 1040
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FLI CDNA.
Arabidopsis thaliana (thale cress)
Arabidopsis thaliana
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Arabidopsis ORF clones
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Unpublished
                                                                                                                                     268
                                                                                                                                                                                     529
                                                                                                                                                                                                                                         628
                                                                                                                                                                                                                                                                                       589
                                                                                                                                                                                                                                                                                                                                             685
                                                                                                                                                                                                                                                                                                                                                                                              649
                                                                                                                                                                                                                                                                                                                                                                                                                                               745
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                709
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    805
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        865
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          925
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             889
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           985
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1009
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DEFINITION
ACCESSION
VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              JOURNAL
REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 9
BT006241
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TITLE
```

g

Db

Š g

 δ

à

ä

90 9 150 108

wed Aug

8 6 6

us-10-019-931-1.rge

٠ کو م ठ ACCESSION VERSION KEYWORDS SOURCE ORGANISM

REFERENCE AUTHORS

* NOTE: This is a 'working draft' sequence. It currently consists of 3 contigs. Gaps between the contigs. * are represented as runs of N. The order of the pieces * is believed to be correct as given, however the sizes of the gaps between them are based on estimates that have * provided by the submittor.

* This sequence will be represerved.

* This sequence will be preserved.

* the accession number will be preserved.

* 11240 11339: gap of unknown length 11240 20610: contig of 1239 bp in length 20610: contig of 9271 bp in length 20611 20710: gap of unknown length 1. 20611 111989: contig of 91279 bp in length.

* Zoon 1 11989: contig of 91279 bp in length.

* Cocanism="Medicago truncatula" / Ab xref="staxon:3880" / Albrary H2" / Albrary H2" / Albrary H2"

43311 43252 AAAGGTTGGAGAACACCTTATATTTATCTATTCCAAGGATTTTGGTGCCAACCAGGTGAA

43251

43371 GCCACCATACCTAAATCCGGTACAACCTGGCTAAAAAGCTTTAACTTTCACCATCCTTAAC

408 43432 CGCCA-----AAACCATTTCATTTCATCCAAAACCATCCTTTGCTTAGTTTCAATCCA 43546 TIGICIAAAATTCATGAGCCTAGACTTTTGGTACACATATTCCTTTTGACTCATTGTCC 43605

```
109110 TARATTTCATGCCARAGACATGATATTGTTGCTTGCATCTATGCCAAAATCTGGCACCAC 109051
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               109050 TriGectraAAGGTCTTGCATATGCTATGTTAATCGCCAACATTTTACCTCCTTAG---A 108994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              108933 AAACCTTAATGGTGGTAAAGACATTCTTTTGCCTCAARTTGATGATCAAATATGATTGA 108874
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        108873 Acchagectriringscáchcháchtrichtrichtrichagechandagást 108814
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  108813 CAGTIGIAAARICAITIAIAIAIGIAGAAACCCAITIIGAIACAITIGIAICAIAITGGAA 108754
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          108753 THACATCAACAAAGTCAGATCAAAAATCTTTAACGAATTAACTTTAAAGAGTCTTT 108694
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            109290 TCAGGAACAAATCCTCCAATGGCTTCAACATATAACACAGAAAACAAGGTAATCCATGA 109231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                109111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         108993 GAATAATAACCATCCATTACTATTAATCCACATGAACTAGTGCCTCTGTTTGAGGT 108934
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ñ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      374
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 542
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          719
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            194
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    254
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              314
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GAGTACCAACCACCTTTTCACTTCCAACCCTCATGACCTTGTACCTTTCTTCGAGTA 434
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   629
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        660 TGATCTGTATTGCCGGGGGGGTTCGGGTTTGGCCCCTTTTGGGAACACATGTTGGGATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             109170 TTTTTTCATGGATTTTGGTGTCCATCATATCTTATCCAATCTGTCAACACTTTTCAAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COGIGIGAAGGICGIGIACTIGIGCCGGAACCCGTTIGACACATICAICTICGIGGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      109230 TTATAATAACCTAATCTTGTCACTTCCTAGAGAAATGGGTGTGAGACTGAATATGTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CCTATTCCAAGGGTTTTGGTGCCAAGCCAAAGAGTTCAAGCCATCATGTCTTTCCAAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CTGGCTAAAAGCTTTAACTTTCACCATCCTTAACCGTCACCGGTTTGATCCGGTTGCCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          435 CAAGCTTTACGCCAACGGAGATGTTC------CCGATCTCTCGGGGTCTAGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  75 TAAAGAAGGCAAAACTCGCGACGTCCCGAAAGCCGGAAGAAGATGAAGGGCTAAGCTGCGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            135 GITCCAAGAGATGTIGGATICTCTTAAGGAGAAGAGGATGGAGAACTCGTTACCTTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              255 ACATTICCAAICCCICGAAAACGACGICGITCICGCCACCAIACCIAAAICCGGIACAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TCCAAGAACGTTCGCAACCCACTTACCGTTCCCTAAAGGAAACGATCGAGAAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TTACACCAACAACATCAAATCCGAG---TCAGTGAGCCCAGTCTTGCTAGACCAAGCTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       18; Gaps
                                                                                                                                                                                                                                                                                                                                   27561 contig of 27561 bp in length
27562 27661: gap of unknown length
27662 113531: contig of 85870 bp in length.
Location/Qualifiers
1. 113531
/organism="Medicago truncatula"
/mol_type="genemic DNA"
/db_tref="leaxon:3880"
/clone="mth2-10020"
/clone="mth2-10020"
* NOTE: This is a 'working draft' sequence. It currently consists of 2 contigs. The true order of the pieces is not known and their order in this sequence record is arbitrary. Gaps between the contigs are represented as runs of N, but the exact sizes of the gaps are unknown. This record will be updated with the finished sequence as soon as it is available and the accession number will be preserved.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 113531
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           a Score 276.8; DB 2; Similarity 56.9%; Pred. No. 7.3e-74; 75; Conservative 0; Mismatches 417;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches 575;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             315
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       375
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          603
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                 sonrce
                                                                                                                                                                                                                                                                                                                                                                                                                        FEATURES
                               COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                              43845
                                                                                                                                                                                                                                                                                                                                                                                                              44085
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           44086 rchargerrehaharrerecangerenreheheheherragiegarerehren 44145
                                                                                                                                             Trcarcrictricarcritreccaacaaarraagccaccritcrrigccracarrigaar 43725
                                                                                                                                                                                                                                    TTAGAGGAAGCTTTTGAAATGTATTGTAATGGTTTAGTTGGGTTTGGCCCATTTTGGAAT 43785
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             cgrccititacarresaggadgaagreaggererearrearaarraraagrigigi 43965
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Medicago truncatula clone mth2-10o20, WORKING DRAFT SEQUENCE, 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GAGAAICGAIICIIGIIICGGAAAGGAGAAGIGAGIGAIIGGGIIAACIAIIIGICACCI 1005
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1006 TCACAAGTGGAAAGATTGTCAGCCTTAGTGGATGACAAGTTAGGTGGATCTGGTCTCACT 1065
                                                                                                                                                                                                                                                                                  765
                                                                                                                                                                                                                                                                                                                                                                          825
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Eukaryota, Viridiplantae, Streptophyta, Embryophyta, Tracheophyta, Spermatophyta, Magnoliophyta, eudicotyledons, core eudicots, rosids, eurosids I; Fabales, Fabaceae, Papilionoideae, Trifolieae,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      885
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              945
            GAAACGATCGAGAAACCCGGTGTGAAGGTCGTGTACTTGTGCCGGAACCCGTTTGACACA 585
                                                                                                   645
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Direct Submission
Submitted (21-NOV-2003) Department Of Chemistry And Biochemistry,
The University Of Oklahoma, 620 Parrington Oval, Room 208, Norman,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Submitted (12-AUG-2003) Department Of Chemistry And Biochemistry,
The University Of Oklahoma, 620 Parrington Oval, Room 208, Norman,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 (bases 1 to 113531)
Lin,S., Dixon,R., May,G., Sumner,L., Gonzales,B., Cook,D., Kim,D. and Roe,B.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Lin,S., Dixon,R., May,G., Sumner,L., Gonzales,B., Cook,D., Kim,D. and Roe,B.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Lin, S., Dixon, R., May, G., Sumner, L., Gonzales, B., Cook, D., Kim, D.
                                                                                                                                                                                                                                                                                                                                                                            TACGAGGATCTCAAAGACGACATCGAGACCAACTTGAAGAGGCTTGCAACTTTCTTAGAG
                                                                                                 TTCATCTTTCGTGGCATTACACCAACAACATCAAATCCGAGTCAGTGAGCCCAGTCTTG
                                                                                                                                                                                                                                                                                  CACATGTTGGGATACTGGAGAGAGCCTTGAAGAGACCAGAGAAAGTCTTTTTTAAGG
                                                                                                                                                                                                                                                                                                                              CACATGTTAGGTTATTGGAATGAGAGCAAAGAGACCAAAAAAATGTTCTTTTTTGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    44026 gagaaraagricirigiriragaaaaggrgaagriggrigariggaagraarrarchrchccr
                                                   13606 AATTCAATCAAAGGTTCCAATTGCAAATAGTTTATATTTTGTAGGAACCCTTTTGATACT
                                                                                                                                                                                           CTAGACCAAGCTTTTGATCTGTATTGCCGGGGAGTGATCGGGTTTGGCCCGTTTTGGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AGCTTCGAGAATCTGAAGAAGTTGGAGGTGAACAAGTCAAACAAGTCGATCAAGAACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CTTCCTTTCACCGAAGAGAGGAACGAAAGGGAGTTGTGAAGGCTATCGCCGAGCTGTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Medicago truncatula BAC Clone mth2-10020 Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AC146342
AC146342.4 GI:3B488819
HTG, HTGS_PHASB1; HTGS_DRAFT.
Medicago truncatula (barrel medic)
Medicago truncatula
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (bases 1 to 113531)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (bases 1 to 113531)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TTTAGAGTGA 44155
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               and Roe, B.A.
Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TTCAGGTTGA 1075
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            OK 73019, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     886
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1066
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             44146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           826
                                                                                                                                                                                                646
                                                                                                                                                                                                                                           13726
                                                                                                                                                                                                                                                                                                                                                                                 994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             946
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       43906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AC146342/c
LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACCESSION
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             JOURNAL
REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 REFERENCE
```

ò 임 ò

임

g ò g ઠે q ò Db

ò

ò g ò g ò TITLE

source 1138586 /organism="Medicago truncatula" /mol_type="genomic DNA" /db_xref="taxon:3880" /clone="mth2-7k13" /clone_lib="Medicago truncatula BAC library H2"	Ouery Match 23.8%; Score 256.6; DB 8; Length 138586; Best Local Similarity 55.5%; Pred. No. 1.4e-67; Matches 540; Conservative 0; Mismatches 424; Indels 9; Gaps 2; Oy 98 TCCCGAAAGCCGAAAGATGAAAGCTGCCGACTCCAAGAGATGTTGGATTCTC 157	33786 TGCCAAATACTTGAAGAAGATGACTTAGGGCAAGAATGCAAGAACTTGATACAAACCT 158 TTCCTAAGGAGAGAGGAACTGGAGAACTCGTTACCTATACCTATTCCAAGGGTTTTGGTGCC	33726 218 33666	OY 278 ACGTCGTCGCCACCATACTACATCCGGTACAACCTGGCTAAAGCTTTAACTTTCA 337	Oy 398 CTICCAACCCTCATGACCTTGTACCTTTCTTCGAGTACAAGCTTTACGCCAACGGAG 454	574	OY 575 CGTTTGACACATTCATCTTCGTGGCATTACACCAACAACAACCAATCCGAGTCGGTGA 634 Db 33312 CTAAAGACATTTTGTTTGCTTTGCCATTTCTCAAACATAGGAAACAAAGTAGAG 33253 OY 635 GCCGAGTCTTGCTAGACCAAGCTTTTGATCTGTATTGCCGGGGAGTGATTGGC 694	Db 33252 daaCacticCatiAdagaGCTTTTGAGAGTTTTTGTAGAGAACACTTCTTAGGGC 33193 Oy 695 CGTTTGGGAACACGTTGGGATCGGAGAGAGAGCTTGAAGAGACAGAGAAAGTCT 754 Db 33192 CGTTTGGGATCATGTATAGGATACTGGAAGGAAAGCTTGGAAAGACGGAGAAGGTTA 33133	Oy 755 TCTTTTTAAGGTACGAGGATCTCAAAGACGACATCGAGACCTTGAAGAGGCTTGCAA 814 Db 33132 TGTTTTGAAATATGAAATGAAATGAAACCTAATTTTGTTTTGAAAGAGATTGCTA 33073	815 CTITCTIAGAGCITCCTTICACCGAAGAAGGAACGAAAGGAGTIGIGAAGGCIATCG 33072 AGITTIGGGGIGTCCATTCTCCGAAGAAGAAGAATCCAATGGIGTGTGTGATGATAIAT	875 CCGAGTGTGTGGCTTCGAGATCTGAAGATTGGAGGTGAACAGTGAAGAGCGA 33012 TACATTTGTGTAGTTTTGAGAAGCTTAGGAACTTGGAGTTCAATAAGAACGGGAAATTT	OY 935 TCAAGAACTTGAAAATCGATTCTGTTTCGGAAAGGAGAAGTGATTGGGTTAACT 994 Db 32952 CGTCGGAAATTGAAAACAAGAACTTTTTCCGTCTTGGCAAAGTTGGAAAATTGAAAATT 32893 OY 995 ATTTGTCACCTTCACAAAGATTGTCAAGTTGGATGAAGATTAGGTGGAAAATT 1054
Db	Db 108573 AdAAGATCTTAATTTTCACATCAAAGAATTGCAAGATTTCTTTC	OY 900 GAAGAAGTIGGAGGIGAACAAGICGAACAAGICGAICAAGAACTITGAGAAICGATICIT 959	108393 CTTTCGAAAGGAGAAATAGGAGATTGGGTAAATTACTTTTCTCCTTCAATGATAGAAG 108 1020 ATTGTCAGCTTAGTGAATAGAGTAGAATTAGGTGAATTTTCTCCTTCAATGATAGAAG 108 1020 ATTGTCAGCTTAGTGAATGACAAGTTAGGTGGATCTGGTCTCACTTCA 1069	า สุรัส	VERSION AC144726.6 GI:34365847 KEYNORDS HTG. Medicago truncatula (barrel medic) ORGANISM Medicago truncatula Eukaryvora; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; Cosids; eurosids I; Fabales; Fabaceae; Papilionoideae; Trifolieae;		JOURNAL Unpublished JOURNAL 1 (Dases 1 to 138586) AUTHORS Shaull, S., Lin, S., Dixon, R., May, G., Sumner, L., Gonzales, B., TITLE Direct Submission JOURNAL Submission JOURNAL Submisted (14.MAY-2003) Department of Chemistry and Biochemistry	The University Of Oklahoma, 620 Parrington Oval, Room 208, Norman, OK 73019, USA REFERENCE 3 (bases 1 to 138586) AUTHORS Shaull, S., Lin, S., Dixon, R., May, G., Sumner, L., Gonzales, B., TITLE DIXOR SHAME COOK, D., Xim, D. and Roe, B.A.	G A	S D D S E	COMMENT On Aug 30, 2003 this sequence version replaced gi:32567849.	The University of Oklahoma Center code:UOKNOR FEATURES Location/Qualifiers

쉽

g à

```
Query Match
                                                                               ORIGIN
                                                                                                                                                                                                   ઠે
                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                           ઠ
                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            \delta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Д
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
Medicago truncatula clone mth2-13n10, WORKING DRAFT SEQUENCE, 8
                                                                                                                                                                                                                                                      AC119410
AC119410
AC119410
AC19410
AC19410.5 GI:44018695
HTG. HTGS_DRAFT.
Medicago truncatula (barrel medic)
Medicago truncatula
Medicago truncatula
Subaryota, Viridiplantae, Streptophyta, Embryophyta, Tracheophyta,
Spermatophyta, Magnolicphyta, eudicotyledons, core eudicots,
rosids, eurosids I; Pabales; Fabaceae, Papilionoideae, Trifolieae,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Submitted (18-DEC-2003) Department Of Chemistry And Biochemistry, The University Of Oklahoma, 620 Parrington Oval, Room 208, Norman,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Submitted (26-APR-2002) Department Of Chemistry And Biochemistry, The University Of Oklahoma, 620 Parrington Oval, Room 208, Norman,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3 (bases 1 to 107440)
Shall, S., Lin, S., Dixon, R., May, G., Sumner, L., Gonzales, B.,
Cook, D., Kim, D. and Roe, B.A.
Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Shaull,S., Lin,S., Dixon,R., May,G., Sumner,L., Gonzales,B., Cook,D., Kim,D. and Roe,B.A.
Medicago truncatula BAC Clone mth2-13n10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2 (bases 1 to 107440)
Shall, S., Lin, S., Dixon, R., May, G., Sumner, L., Gonzales, B., Cook, D., Kim, D. and Roe, B.A.
Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         OK 73019, USA
On Dec 18, 2003 this sequence version replaced gi:30231297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              arbitrary. General the contigs are represented as runs of N, but the exact sizes of the gaps are unknown. This record will be updated with the finished sequence as soon as it is available and the accession number will be preserved.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NOTE: This is a 'working draft' sequence. It currently consists of 8 contigs. The true order of the pieces is not known and their order in this sequence record is
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 6423: contig of 6423 bp in length 6523: gap of unknown length 14616: contig of 8093 bp in length 14716: gap of unknown length 22880: contig of 8164 bp in length 38552: contig of 15272 bp in length 38552: gap of unknown length 54647: contig of 16495 bp in length 54947: gap of unknown length 66377: contig of 11430 bp in length 66377: gap of unknown length 66477: gap of unknown length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      83240: contig of 16763 bp in length 83340: gap of unknown length 07440: contig of 24100 bp in length.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Center: Department of Chemistry And Biochemistry
The University of Oklahoma
Center code: UOKNOR
                                                                                                                                                                                                                                                                                                                                                                                                                                    (bases 1 to 107440)
                                                                                                32832 ATGGGTTGAGTTT 32820
                                                          1055 CTGGTCTCACTTT 1067
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   OK 73019, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                54848
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         22981
                                                                                                                                                           RESULT 13
AC119410/c
                                                                                                                                                                                                                DEFINITION
                                                                                                                                                                                                                                                                                                                                    ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TITLE
JOURNAL
REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TITLE
JOURNAL
                                                                                                                                                                                                                                                          ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                    REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                     AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AUTHORS
                                                                                                                                                                                                                                                                           VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COMMENT
                                                                                                                                                                                                                                                                                                                   SOURCE
```

1. .107440 /organism="Medicago truncatula"

Location/Qualifiers

source

FEATURES

```
22800 GAAGAAAACAAGGTAATCCATGATTATAATAACCTAATCTTGTCTCTTCCTAGAAAAT 22741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 22740 GGATGTGATACTCAATATTTTTATTTTTATCATGGATTTTTGGTGTCCATCAACTCTTATC 22681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          22560 CAACATTTT-----ACCTCCTTAGAGAATAACCATCCATTACTATTAATCCACAT 22507
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        22506 GAACITGTGCCTCATTTTGAAGTAAGTGGTAATAATACAGATGGTCAAATGCCTCAAATT 22447
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         22680 CAATCTGTGAACTCTTTTTCAAAATAATTTTCATGCCAAAGATAGTGATATTGTAGTTGCA 22621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        22386 CCCAAGTCAATTCAAGAGTCCAATTGTAAAATAATTTATATATGTAGAAACCCATTTGAT 22327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2226 TIAACTITIGGAGGAATCTITITGAAAGGIACTGIAAGGAAIAIGITTITITITGGTCGTTC 22207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  22206 TGGGACAATATGTTGGGTTACTTGAAGGAGAGCATAGAAAGACCAGATAGGGTTTTATTC 22147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  22086 GTGGGATTTCCTTTCACTGAAGAAGAAGAAAATAATGGAGTGATTGAAAATATAATCAAG 22027
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      21966 AAGATTGAGAGAGTTTTTCTTTCGAAAGGGAGAATTAGGGGATTGGGTGAATTATCTC 21907
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             12620 IČCATGĆĆAAAATCTGĞCAČTAČTTGĞCTTAAAĞGTCTTGÇATATGČTATTGTTAATĞC 22561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      22446 gargraccaaararggargaaccaaggcrrranggaacrcacargccarrrccrrcgrrg 22387
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                22146 TIGAPATATGAGACCTTAAAGAAGATGTTAATTTTCACGAAAAGAATTGCAGAATTT 22087
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1000 TCACCTTCACAAGATGATTGTCAGCCTTAGTGGATGACAAGTTAGGTGGATTCTGGT 1059
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              411
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      292 ACCATACCTAAATCCGGTACAACCTGGCTAAAAGCTTTAACTTTCACCATCCTTAACCGT 351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  112 GAAGATGAAGGCTAAGCTGCGAGTTCCAAGAGATGTTGGATTCTCTTCCTAAGGAGAGA 171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           412 GACCTTGTACCTTTCTTCGAGTACAAGCTTTACGCCAACGGAGATGTTCCCGATCTCTCG 471
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            523 AAGGAAACGATCGAGAAACCCGGTGTGAAGGTCGTGTACTTGTGCCGGAACCCGTTTGAC 582
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              760 TTAAGGTACGAGGATCTCAAAGACGACATCGAGACCAACTTGAAGAGGCTTGCAACTTTC 819
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      820 TTAGAGCTTCCTTTCACCGAAGAAGAGGAACGAAAGGGAGTTGTGAAGGCTATCGCCGAG 879
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         880 CIGIGIAGCITCGAGAATCTGAAGAAGTTGGAGGTGAACAAGAACAAGTCGATCAAG 939
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       472 GGTCTAGCCAGT-----CCAAGAACGTTCGCAACCTTACCGTTCGGTTCCCTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     172 GGATGGAGAACTCGTTACCTTTACCTATTCCAAGGGTTTTGGTGCCAAGCCAAAGAGATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  232 CAAGCCATCATGTCTTTCCAAAACATTTCCAATCCCTCGAAAACGACGTCGTTCTCGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     583 ACATICATCTTCGTGGCATTACACCAACAACAATCCGAG---TCAGTGAGCCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 22326 ACATTTGTATCATATTGGACTTTCATCAACAAACTCAGATTAAAGAAATCTTTAACTGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             640 GTCTTGCTAGACCAAGCTTTTGATCTGTATTGCCGGGGAGTGATCGGGTTTGGCCCGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              352 CACCGGTTTGATCCGGTTGCCTCGAGTACCAACCACCTCTTTTCACTTCCAACCTCAT
                                                                                                                                                                                                                                                                               23.5%; Score 252.8; DB 2; Length 107440;
56.0%; Pred. No. 2.1e-66;
tive 0; Mismatches 412; Indels 18; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          700 TGGGAACACATGTTGGGATACTGGAGAGAGAGAGTGAAGAGACCAGAGAAGTCTTCTTT
/mol_type="genomic DNA"
/db_xref="fuaxon:3880"
/clone="mid-13110"
/clone_lib="Medicago truncatula BAC library H2"
                                                                                                                                                                                                                                                                                                                             Best Local Similarity 56.08
Matches 548; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ઠ
```

```
76036
                                                                                          299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           704
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               824
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        884
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  944
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1064
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              76807
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                76927
                                ò
                                                        g
                                                                                        ò
                                                                                                                   g
                                                                                                                                                    ઠ
                                                                                                                                                                          임
                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                   à
                                                                                                                                                                                                                                                                                             d
                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                      ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             \dot{\delta}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Б
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                      119317 bp DNA linear HTG 12-SEP-2003 truncatula clone mth2-10a6, WORKING DRAFT SEQUENCE, 3
                                                                                                                                                        AC14476.6 GI:34576471
HTG; HTGS_PHASE2; HTGS_DRAFT.
Medicago truncatula (barrel medic)
Medicago truncatula
Medicago truncatula
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots;
Cosida; eurosida I; Fabales; Fabaceae; Papilionoideae; Trifolieae;
                                                                                                                                                                                                                                                                                                                                                    2 (bases I to 119317)
Shaull,S., Lin,S., Dixon,R., May,G., Sumner,L., Gonzales,B.,
Cook,D., Xim,D. and Roe,B.A.
Direct Submission
Submitted (22-APR-2003) Department Of Chemistry And Biochemistry,
The University Of Oklahoma, 620 Parrington Oval, Room 208, Norman,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                * NOTE: This is a 'working draft' sequence. It currently consists of 3 contigs. Gaps between the contigs are represented as runs of N. The order of the pieces is believed to be correct as given, however the sizes of the gaps between them are based on estimates that have provided by the submittor.

This sequence will be replaced
by the finished sequence as soon as it is available and the accession number will be preserved.

101224 101323 contig of 101223 bp in length
101324 101323 gap of unknown length
101324 108389: contig of 7066 bp in length
1018090 119317: contig of 10828 bp in length
1018090 119317: contig of 10828 bp in length.
                                                                                                                                                                                                                                                         1 (bases 1 to 119317)
Shaull,S., Lin,S., Dixon,R., May,G., Sumner,L., Gonzales,B., Cook,D., Kim,D. and Roe,B.A.
Medicago truncatula BAC Clone mth2-10a6
Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /organism="Medicago truncatula"
/mcl_type="genomic DNA"
/mcl_txpe="genomic DNA"
/clore="mth2-10a6"
/clore="mth2-10a6"
/clore_lib="Medicago truncatula BAC library H2"
                          21846 CTATCATTTAAGGGGTGC 21829
1060 CTCACTTTCAGGTTGAGC 1077
                                                                                                                                            ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 source
                                                                                                   LOCUS
                                                                                                                                                                                                                                                                                                                      TITLE
JOURNAL
REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                              TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TITLE
JOURNAL
                                                                                                                                                                                                                                                                              REFERENCE
                                                                                                                                                                                                                                                                                          AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                         REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AUTHORS
                                                                                    AC144476
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ORIGIN
                          g
ठे
```

4,

239

180 AACTCGTTACCTTTACCTATTCCAAGGGTTTTTGGTGCCAAGCCAAAGAGATTCAAGCCAT

Score 252.8; DB 2; Length 119317; Pred. No. 2.1e-66; 0; Mismatches 352; Indels 25;

23.5%;

Similarity 58.4 29; Conservative

529;

Best Loca Matches

Query Match

```
76215
76506
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      76566
                                                                                                                                                                                                                                                                                                                                                                                                                     76267 recerrectresaarcaarereraretrearacearreceaerreceaerreceraaerresara 76326
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    76626
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       76686
                                                                                                                            76155
                                                                                                                                                                                                                                                                                                                  76216 İCTCİTCITİAĞ-----AGAATCATCCATİACİTACAİCIAATICİCAİGACİTĞ 76266
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           76386
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       76746
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ricanahanacinciricicanahagcrehaganaganaricanirakinakeratericie 76866
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      418
                                                                                                                                                                                                                                                                                                                                                                            466
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TIGAGAATCGATTCTTGTTTCGGAAAGGAGGAGTGAGTGATTGGGTTAACTATTTGTCAC 1003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             643
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CTTCACAAGTGGAAAGATTGTCAGCCTTAGTGGATGACAAGTTAGGTGGATCTGGTCTCA 1063
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AC147431 147510 bp DNA linear HTG 12-DEC-2003 Medicago truncatula clone mth2-88g17, WORKING DRAFT SEQUENCE, 6
AC147431 AC147431.5 GI:39652661
Medicago truncatula (bErrel medic)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          703
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          763
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        823
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        883
                                                                                                                                                                                                     76327 harmanacargantgancchadgecrrirrigahacrchadarccrrirriccrridecan
                                                                        240 CATGTCTTTCCAAAAACATTTCCAATCCCTC-GAAAACGACGTCGTTCTCGCCACCATAC
                                                                                                                                                                                                                                                                                                                                                                            ------CCAACGGAGATGTTCCCGATC
                                                                                                                       76096 akicricirirckkakickirirckkgcckakakkirkgrekreirgrecererkiee
                                                                                                                                                                                                                                                                      359 ITGAICCGGIIGCCICGAGIACCAACCACCICITITCACITCCAACCCICAIGACCITG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    467 TCTCGGGTCTAGCCAGTCCAAGAACGTTCGCAACCCACTTACCGTTCGGTTCCCTAAAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  527 AAACGAICGAGAAACCCGGIGIGAAGGICGIGIACTIGIGCCGGAACCCGITIGACACAI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     587 TCATCTCTTCGTGGCATTACACCAACAACAACAATCCGAGTCAGTGAGCC---CAGTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 16447 ACGIGICATATIGGAATITITATGAACAAATITICATTAAATITIGATITITCCTACAATAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 76507 CTATAGAGGATGATTTTGAAAGGTATTGTAAGGGGATATGTCATGTTGGTTCATTTTGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 76567 Accardrinadecraritronaccadedecraedecraedecadecadecririnaritearea
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             76627 AATATGAAGATCTTAAAGAAATGGAAATTCTCATGTCAAAAGAATTGCAGAGTTCTTG
                                                                                                                                                                         CTAAATCCGGTACAACCTGGCTAAAAGCTTTAACTTTCACCATCCTTAACCGTCACCGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  644 TGCTAGACCAAGCTTTTGATCTGTATTGCCGGGGAGTGATCGGGTTTGGCCCCGTTTTGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   764 GGTACGAGGATCTCAAAGACGACATCGAGACCTTGAAGAGGCTTGCAACTTTCTTAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AGCTICCITICACCGAAGAAGAAGGAACGAAAGGGAGTIGIGAAGGCIATCGCCGAGCIGI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  76687 Arrerccirircacreadadadadaacraaredrereradaarahrarcaarraa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GTAGCTTCGAGAATCTGAAGATGGAGGTGAACAAGTCAAACAAGTCGATCAAGAACT
                                                                                                                                                                                                                                                                                                                                                                       419 TACCITICTICGAGIACAAGCITIACG-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CATTTA 76932
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CITICA 1069
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 15
AC147431
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   VERSION
KEYWORDS
SOURCE
```

```
527
                                   ઠે
                                                                 日
                                                                                                   ò
                                                                                                                               d
                                                                                                                                                                 ò
                                                                                                                                                                                               셤
                                                                                                                                                                                                                                 Š
                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                  ઠે
                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  \delta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ਨੇ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 125207 AATCTCTTTTCAAAATCATTTTCAAGCCAAAAGATAGTGATGTTGTTGTTGCTTGTCATGC 125266
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               125267 CAAAAACTGGAACAACATGGTTGAAAGCCCTAACCTTTGCTATTGTTAATCGTAATCGTT 125326
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Bukaryota, Viridiplantae, Streptophyta, Embryophyta, Tracheophyta,
Spermatophyta, Magnoliophyta, eudicotyledons, core eudicots,
rosids, eurosids I, Fabales, Fabaceae, Papilionoideae, Trifolieae,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     358
                                                                                                                                                               Qin,B., Lin,S. and Roe,B.A.
Direct Submission
Submitted (18-NOV-2003) Department Of Chemistry And Biochemistry,
The University Of Oklahoma, 620 Parrington Oval, Room 208, Norman,
                                                                                                                                                                                                                             OK 73019, USA

(Dr. 12. 1. 1. 147510)

Qin, B., Lin, S. and Roe, B.A.

Direct Submission

Submitted (12-DEC-2003) Department Of Chemistry And Biochemistry,

The University Of Oklahoma, 620 Parrington Oval, Room 208, Norman,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   240 CATGICITICCAAAAACATITCCAAICCTC-GAAAACGACGICGTICICGCCACCAIAC 298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TIGATCCGGTIGCCTCGAGTACCACCCTCTTTTCACTTCCAACCCTCATGACCTTG 418
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     180 AACTCGTTACCTTTACCTATTCCAAGGGTTTTGGTGCCAAGGCCAAAGAGATTCAAGCCAT 239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CTAAATCCGGTACAACCTGGCTAAAAGCTTTAACTTTCACCATCCTTAACCGTCACCGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     25; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                    NOTE: This is a 'working draft' sequence. It currently consists of contigs. The true order of the pieces is not known and their order in this sequence record is arbitrary. Gaps between the contigs are represented as runs of N, but the exact sizes of the gaps are unknown. This record will be updated with the finished sequence as soon as it is available and the accession number will be preserved.
                                                                                                                                                                                                                                                                                                                                 OK 73019, USA
On Dec 10, 2003 this sequence version replaced gi:38708072
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 252.8; DB 2; Length 147510;
Pred. No. 2.2e-66;
0; Mismatches 352; Indels 25;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  gap of unknown length contig of 78274 bp in length.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                46507 bp in length
                                                                                                                                                                                                                                                                                                                                                             Center: Department Of Chemistry And Biochemistry
The University Of Oklahoma
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             contig of 3309 bp in length
gap of unknown length
contig of 2529 bp in length
gap of unknown length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  unknown length
of 2529 bp in length
unknown length
of 6963 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  unknown length
of 9428 bp in length
unknown length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /clone_lib="Medicago truncatula BAC"
                                                                        /organism="Medicago truncatula"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /mol_type="genomic DNA"
/db xref="taxon:3880"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                contig
gap of t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   contig
gap of
                                                                                                                                                 (bases 1 to 147510)
, B., Lin, S. and Roe, B.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   23.5%;
58.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3309:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  22529:
22629:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    13001:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   69236:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  147510:
 Medicago truncatula
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1. 147510
                                                                                                                                                                                                                                                                                                                                                                                                                    Center code: UOKNOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity 58.49
Matches 529; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3410
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  6039
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    13002
13102
22530
22630
69137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 359
ORGANISM
                                                                                                               TITLE
JOURNAL
REFERENCE
AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                 TITLE
JOURNAL
                                                                                                                                                                                                                                                 REFERENCE
                                                                                                                                                                                                                                                                   AUTHORS
                                                                                 REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FEATURES
                                                                                                                                                                                                                                                                                                                                                 COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
```

```
125327 TCTCTTCTTTAG-----AGAATCATCCATTACTTACATCTAATTCTCATGAACTTG 125377
                                                                                                                                                                                 125378 IGCCTTCCTTGGAATGAATGTGTATGTTGATACCATTTCCCAGTTTCCTAAGTTTGATA 125437
                                                                                                                                                                                                                                                                                                                                                                            125438 TATTAAACATGATTGAACCAAGGCTTTTTGGAACTCACATTCCTTTTGCTTCCTTAGCAA 125497
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         125558 ACGTGTCATATTGGAATTTTATGAACAAATTTCATTAAATTTTGATTTTCCTACAATAA 125617
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               125738 AATATGAAGATCTTAAAGAAAATGGAAATTCTCATGTCAAAAGAATTGCAGAGTTCTTGG 125797
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             125798 ATTGricirirckichadadadadaarrahridarcricarrigadarahrarcaarrrar 125857
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         125858 GTÄGCTTTAAAAAGATGAAGAATTGGAGGCAAATAAATTTGGAGGTTTGGAAGAAAA 125917
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    125918 TTGAAAAAACTACTTGTTCCGAAAGGCTGAGGTAGGAGTTGGATTAGCTTACTACCTTTCTC 125977
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1004 CTTCACAAGTGGAAAGATTGTCAGCCTTAGTGGATGACAAGTTAGGTGGATCTGGTCTCA 1063
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   643
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               763
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      823
                                                                                           419 TACCTTTCTTCGAGTACAAGCTTTACG-------CCAACGGAGATGTTCCCGATC 466
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       125678 ACCAGAGTTTAGAACGAGAGCATAGCTAGACCAGACAAGGTTTTATTCATGA
                                                                                                                                                                                                                                                                                 467 TCTCGGGTCTAGCCAGTCCAAGAACGTTCGCAACCCACTTACCGTTCGGTTCCCTAAAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              587 TCATCTTCGTGGCATTACACCAACAACATCAAATCCGAGTCAGTGAGCC---CAGTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  884 GTAGCTTCGAGAATCTGAAGAAGTTGGAGGTGAACAAGTCAAACAAGTCGATCAAGAACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAACGATCGAGAAACCCGGTGTGAAGGTCGTGTACTTGTGCCGGAACCCGTTTGACACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   125498 AGTCAATCAAGGAATCCAATTGTAAGATAATTTACATATGCAGGAACCCTTTTGACACTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               704 AACACATGTTGGGATACTGGAGAGAGCTTGAAGAGACCAGAGAAAGTCTTTTTAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      764 GGTACGAGGATCTCAAAGACGACATCGAGACCAACTTGAAGAGGCTTGCAACTTTCTTAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            824 AGCTTCCTTTCACCGAAGAAGAACGAAAGGGAGTTGTGAAAGGCTATCGCCGAGCTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         644 TGCTAGACCAAGCTTTTGATCTGTATTGCCGGGGAGTGATCGGGTTTGGCCCCGTTTTGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Search completed: August 17, 2004, 04:13:09
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            126038 CAŤŤTÁ 126043
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1064 CTTTCA 1069
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Job time : 4401 secs
```

us-10-019-931-1.rng

```
GenCore version 5.1.6
Copyright (c) 1993 - 2004 Compugen Ltd.
```

- nucleic search, using sw model

OM nucleic

August 17, 2004, 02:28:29; Search time 491 Seconds (without alignments) 9318.349 Million cell updates/sec Run on:

1 atggctacctcaagcatgaa......gtctcactttcaggttgagc 1077 US-10-019-931-1 1077 Title: Perfect score:

IDENTITY_NUC Gapop 10.0 , Gapext 1.0 Scoring table: Sequence:

3373863 seqs, 2124099041 residues Searched:

6747726 Total number of hits satisfying chosen parameters:

Minimum DB seq length: 0 Maximum DB seq length: 200000000

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

geneseqn2000s:* geneseqn2001as:* geneseqn2001bs:* geneseqn2003bs:*geneseqn2003cs:* geneseqn2002s:* geneseqn2003as:* N_Geneseq_29Jan04:* 1: geneseqn1980s:* genesegn1980s:* genesegn1990s:* Database :

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

geneseqn2004s:*

	Description	etyxoxpxH	۰۵	·α	8 Hvdroxvi	w	Abz14244 Arabidops	Abz42036 Arabidops	Aac42382 Arabidops	N	N	44	Aac37521 Arabidops	0		51	Aac37555 Arabidops	Add25206 Fertility	Abz68952 Nucleotid	Aac37716 Arabidops	σ	Ada71367 Rice gene	0 Rice	
SUMMARIES	ID	AAF29177	AAC48839	AAC47848	AAF29178	ADA68055	ABZ14244	ABZ42036	AAC42382	ABZ13222	AAC37672	AAC39344	AAC37521	AAD54410	ADD25213	ABZ68951	AAC37555	ADD25206	ABZ68952	AAC37716	ADB23209	ADA71367	ADA69350	AAD54402
	DB	4	ď	ന	4	7	9	7	m	9	ო	ო	ო	7	თ	۲	m	σ	^	ო	ထ	7	7	7
	Length	1077	1270	1273	1041			981	1043	966	1154	1212	1205	1400	271990	1017	1347	2067	1053	1281	1000	1040	1017	176
de	Query Match	100.0	100.0	99.7	78.3	21.3	21.3	21.3	21.3	20.4	20.4	18.6	18.0	17.8	17.1	16.2	16.0	15.4	14.6	14.6	14.3	13.7	13.2	13.1
	ဗ	1077	1077	1073.8	843.6	229.2	229.2	229.2	229.2	219.2	219.2	200.8	194.2	191.8		•	172.8	166	157.4	157.4	153.8	147.4		141
•	ω		N	8	4	S	9	7	80	σ	10	11	12	13	o 14	15	16		18				22	

	Ada71112 Rice gene Aad54403 Lolium pe Aas20863 Z. marina Ade81149 Arabidops Zhv5687 zvahidops		
AAD54404 ABZ68953 ADA69659 ADA70067 AAD54405	ADA71112 AAD54403 AAS20863 ADE81349 ABX56987	ABX57622 ABX61194 ABQ85922 AAA71733 AAC32748 ABL67704	ADA71938 ADA71938 ABL17935 ABL17934 AAS45374 AAS46397
rrrr	00-		L L 4 4 4 4
776 1041 999 1460	1032 668 1192 515	523 523 344 2000 1160	2000 2000 6917 10031 6022 6022
13.0 12.6 10.5 10.5	4	884069	0.00.00.00 0.00.44.44
даада.	H		
140.4 136 133.2 112.8	108.6 104 100.8 87 85.8	883 683 683 683 683 683 883 883 883 883	336.8 36.8 36.8 36.6
400000	3 2 4 2 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	33 3 3 4 5 5 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	4 4 4 4 4 4 0 4 2 6 4 2
	υ	υυυ	υ υ

ALIGNMENTS

AAF29177 standard; DNA; 1077 BP (first entry) 09-APR-2001 AAF29177;

Hydroxyjasmonic acid sulfotransferase AtST2a gene.

Hydroxyjasmonic acid sulfotransferase; AtST2a; flowering time; cabbage; jasmonate; genetically modified plant; lettuce; sugar cane; carrot; increase vegetative growth; biomass increase; ds.

Arabidopsis thaliana.

WO200102589-A2.

11-JAN-2001.

06-JUL-2000; 2000WO-CA000801.

06-JUL-1999; 99CA-02274873.

(VARI/) VARIN L. (GIDD/) GIDDA S.

Varin L, Gidda S;

WPI; 2001-159272/16. P-PSDB; AAB49722.

Methods for modulating flowering in plants, particularly useful plants used in the food-processing industry, involves modifying endogenous level of compounds of the jasmonate family.

Claim 38; Fig 7; 50pp; English.

This invention relates to a method for modulating flowering in a plant. The method comprises modifying the endogenous level of at least one compound of the jasmonate family in a plant. The methods are used to produce plants which are genetically modified to flower early or tardily when compared to a corresponding plant that is not genetically modified, where the modified plant has an increased (flower early) or lowered (flower tardily) level of jasmonic acid, or a compound of the jasmonate family. The method is useful for modulating flowering, particularly for

```
103-1001-1999;
          901
                                                                                                                        RESULT 2
AAC48839
                                                                                                                                                 g
                                                                             8
                        셤
                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      900
                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GACGACATCGAGACCAACTTGAAGAGGCTTGCAACTTTCTTAGAGCTTCCTTTCACCGAA 840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GAAGAAGGAAAGGGAAGTTGTGAAGGCTATCGCCGAGCTGTGTAGCTTCGAGAATCTG 900
                                                                                                                                                                                                                                                                                                                                                                                                          540
                                                                                                                                                                                                                                                                                                                                                                                                                           540
                                                                                                                                                                                                                                                                                                                                                                                                                                             009
                                                                                                                                                                                                                                                                                                                                                                                                                                                             600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   780
                                                                                                                                                                                                                                                                 300
                                                                                                                                                                                                                                                                                                                                      420
                                                                                                                                                                                                                                                                                                                                               480
                                                                                                                                                                                                                                                                                                                                                                                         480
                                                                                                                                                           120
                                                                                                                                                                       180
                                                                                                                                                                                                              180
                                                                                                                                                                                                                                240
                                                                                                                                                                                                                                                240
                                                                                                                                                                                                                                                                                   300
                                                                                                                                                                                                                                                                                                     360
                                                                                                                                                                                                                                                                                                                    360
plants that are used in the food-processing industry and plants with horticultural value. The method is particularly useful for e.g. delaying flowering time in crops like lettuce, cabage, sugar cane or carrotts, which results in increased vegetative growth and biomass. The present sequence represents the Arabidopsis thaliana AtST2a gene, which encodes an hydroxyjasmonic acid sulfotransferase protein, which can be used in the method of the invention
                                                                                                                         09
                                                                                                                                         9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAATCCGGTACAACCTGGCTAAAAGCTTTAACTTTCACCATCCTTAACGGTCACGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              <u> GATCTGTATTGCCGGGGGAGTGATCGGGTTTTGGCGCGTTTTGGGAACACATGTTGGGATAC</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GACGACATCGAGACCTTGAAGAGGCTTGCAACTTTCTTAGAGCTTCCTTTCACCGAA
                                                                                                                                                                                                                                                                                                                                                                        CCTTTCTTCGAGTACAAGCTTTACGCCAACGGAGATGTTCCCGATCTCTCGGGTCTAGCC
                                                                                                                                                                                                                                                                                                                                                                                                           AGTCCAAGAACGTTCGCAACCCACTTACCGTTCGCTTCCCTAAAGGAAACGATCGAGAAA
                                                                                                                                                                                                                                                                                                                                                                                                                     CCCGGTGTGAAGGTCGTGTACTTGTGCCCGGAACCCGTTTGACACATTCATCTCTTCGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                              cecegraterateraterateratecegaacecerricaeaacaterateraterateratea
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CATTACACCAACAACATCAAATCCGAGTCAGTGAGCCCAGTCTTGCTAGACCAAGCTTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GATCTGTATTGCCGGGGAGTGATCGGGTTTTGGCCCCGTTTTGGGAACACACATGTTGGGATAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TGGAGAGAGACTTGAAGAGACCAGAGAAAGTCTTCTTTTAAGGTACGAGGATCTCAAA
                                                                                                                                                                                                                               AAATCCGGTACAACCTGGCTAAAAGCTTTAACTTTCACCATCCTTAACCGTCACCGGTTT
                                                                                                                                                                                                                                                                                                                                                                                   CCTTTCTCGAGTACAAGCTTTACGCCAACGGAGATGTTCCCGATCTCCCGGGTCTAGCC
                                                                                                                                    AAGCTCGAAGCTCCTTAAAGAAGGCAAAACTCGCGACGTCCCGAAAGCCGAAGAAGATGAA
                                                                                                                                                                                           GGGCTAAGCTGCGAGTTCCAAGAGATGTTGGATTCTCTTCCTAAGGAGAGAGGATGGAGA
                                                                                                                                                                                                         ATGTCTTTCCAAAAACATTTCCAATCCCTCGAAAACGACGTCGTTCTCGCCACCATACCT
                                                                                                                                                                                                                                                                            ATGGCTACCTCAAGCATGAAGAGCATTCCAATGGCGATCCCAAGTTTCTCCATGTGTCAC
                                                                                                                                                                                                                                                                                                                                       GATCCGGTTGCCTCGAGTACCAACCACCTTTTCACTTCCAACCCTCATGACCTTGTA
                                                                                                         Gaps
                                                                                                         .
0
                                                                                       Length 1077;
                                                                       Sequence 1077 BP; 294 A; 257 C; 254 G; 272 T; 0 U; 0 Other;
                                                                                                         Indels
                                                                                         DB 4;
                                                                                                         ö
                                                                                        s; Score 1077; D
s; Pred. No. 0;
0; Mismatches
                                                                                         100.0%;
                                                                                                           Conservative
                                                                                          Query Match
Best Local Similarity
Matches 1077; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         841
                                                                                                                                                                                                                                                                                                                                                                                                                              481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       781
                                                                                                                                                               61
                                                                                                                                                                                                121
                                                                                                                                                                                                                  121
                                                                                                                                                                                                                                   181
                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                     241
                                                                                                                                                                                                                                                                                      241
                                                                                                                                                                                                                                                                                                       301
                                                                                                                                                                                                                                                                                                                        301
                                                                                                                                                                                                                                                                                                                                          361
                                                                                                                                                                                                                                                                                                                                                          361
                                                                                                                                                                                                                                                                                                                                                                           421
                                                                                                                                                                                                                                                                                                                                                                                            421
                                                                                                                                                                                                                                                                                                                                                                                                              481
                                                                                                                                                                                                                                                                                                                                                                                                                                                541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         \dot{\delta}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Dp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                     d
                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ઠે
                                                                                                                                                                                                             g
                                                                                                                                                                                                                                  à
                                                                                                                                                                                                                                                ద
                                                                                                                                                                                                                                                                    ઠે
                                                                                                                                                                                                                                                                                                   ò
      88888888888
                                                                                                                             8 6
                                                                                                                                                          8
                                                                                                                                                                           g
                                                                                                                                                                                           ठे
```

```
TTTCGGAAAGGAGAGTGAGTGATTGGGTTAACTATTTGTCACCTTCACAAGTGGAAAGA 1020
                                                                     Hybridisation assay, genetic mapping, gene expression control; protein identification; signal transduction pathway; metabolic pathway; promoter; termination sequence; ss.
                                                                                                        TTGTCAGCCTTAGTGGATGACTTAGGTGGATCTGGTCTCACTTTCAGGTTGAGC 1077
                                                                                                                          AAGAAGTTGGAGGTGAACAAGTCAAAGTCGATCAAGAACTTTGAGAATCGATTCTTG
                                                                                                                                                                                                                                                                                          Arabidopsis thaliana DNA fragment SEQ ID NO: 58964
                                                                                                                                                                                                           ВР
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 9905-0123180P
9905-0123548P
9905-0125268P
9905-0126785P
9905-0126785P
9905-0127462P
9905-0128714P
9905-0138714P
9905-0138714P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    990S-0130510P.
990S-0130891P.
990S-0131449P.
990S-0132048P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       990S-0132484P.
990S-0132485P.
99US-0132486P.
99US-0132487P.
99US-0132487P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        990S-0134941P.
990S-0135124P.
990S-0135353P.
990S-0135629P.
990S-0136021P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          99US-0136782P.
99US-0137222P.
99US-0137528P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        99US-0134218P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                99US-0134370P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    99US-0134221P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              99US-0136392P
                                                                                                                                                                                                           AAC48839 standard; DNA; 1270
                                                                                                                                                                                                                                                                                                                                                                                                                                                             2000EP-00301439
                                                                                                                                                                                                                                                                  (first entry)
                                                                                                                                                                                                                                                                                                                                                                              Arabidopsis thaliana
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              06-MAY-1999;
07-MAY-1999;
11-MAY-1999;
14-MAY-1999;
14-MAY-1999;
14-MAY-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             18-MAY-1999;
19-MAY-1999;
20-MAY-1999;
21-MAY-1999;
24-MAY-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             23-WAR-1999;
25-WAR-1999;
01-APR-1999;
06-APR-1999;
06-APR-1999;
16-APR-1999;
19-APR-1999;
23-APR-1999;
23-APR-1999;
23-APR-1999;
23-APR-1999;
30-APR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                           25-FEB-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           30-APR-1999;
04-MAY-1999;
05-MAY-1999;
06-MAY-1999;
                                                                                                                                                                                                                                                                                                                                                                                                        EP1033405-A2
                                                                                                                                                                                                                                                                  18-OCT-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                  06-SEP-2000
                                                                                                                                           1021
                                                                                                                1021
                                901
                                                           961
                                                                                       961
                                                                                                                                                                                                                                        AAC48839
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    25-MAY-
```

```
Wed Aug 18 09:53:55 2004
```

```
990S-0137502P.
990S-013724P.
990S-0138540P.
990S-0138540P.
990S-0139452P.
990S-0139452P.
990S-0139452P.
990S-0139452P.
990S-0139452P.
990S-0139452P.
990S-0139452P.
990S-0139452P.
990S-0139452P.
990S-0139452P.
990S-0139452P.
990S-0139452P.
990S-0139452P.
990S-0139452P.
990S-0139452P.
990S-0139452P.
990S-0139452P.
990S-0139452P.
990S-0140353P.
990S-0140353P.
990S-0140353P.
990S-014287P.
990S-0140353P.
990S-014287P.
990S-014333P.
990S-014433P.
990S-014433P.
990S-014433P.
990S-014433P.
990S-014433P.
990S-014433P.
990S-014433P.
990S-014433P.
990S-014433P.
990S-014433P.
990S-014433P.
990S-014433P.
990S-014433P.
990S-014433P.
990S-014433P.
990S-014433P.
990S-014433P.
990S-014532P.
990S-014532P.
990S-014532P.
990S-014531P.
990S-014531P.
990S-014531P.
990S-014531P.
990S-014531P.
04-UN-1999

07-UN-1999

10-UN-1999

10-UN-1999

14-UN-1999

14-UN-1999

14-UN-1999

16-UN-1999

18-UN-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-1999

19-UL-
```

RR 16-AUG-1999; 9918-01/1418P.

RR 10-AUG-1999; 9918-01/1418P.

RR 10-AUG-1999; 9918-01/1431P.

RR 11-AUG-1999; 9918-01/1431P.

RR 11-AUG-1999; 9918-01/14854P.

RR 11-AUG-1999; 9918-01/14854P.

RR 11-AUG-1999; 9918-01/14854P.

RR 11-AUG-1999; 9918-01/14854P.

RR 11-AUG-1999; 9918-01/14854P.

RR 11-AUG-1999; 9918-01/1492P.

RR 11-AUG-1999; 9918-01/1492P.

RR 11-AUG-1999; 9918-01/1492P.

RR 11-AUG-1999; 9918-01/1492P.

RR 11-AUG-1999; 9918-01/1492P.

RR 11-AUG-1999; 9918-01/1492P.

RR 11-AUG-1999; 9918-01/1492P.

RR 11-AUG-1999; 9918-01/1492P.

RR 11-AUG-1999; 9918-01/1492P.

RR 11-AUG-1999; 9918-01/1492P.

RR 11-AUG-1999; 9918-01/1492P.

RR 11-AUG-1999; 9918-01/1492P.

RR 11-AUG-1999; 9918-01/1492P.

RR 11-AUG-1999; 9918-01/1492P.

RR 11-AUG-1999; 9918-01/1492P.

RR 11-AUG-1999; 9918-01/1492P.

RR 11-AUG-1999; 9918-01/1492P.

RR 11-AUG-1999; 9918-01/1492P.

RR 11-AUG-1999; 9918-01/1492P.

RR 11-AUG-1999; 9918-01/1492P.

RR 11-AUG-1999; 9918-01/1492P.

RR 11-AUG-1999; 9918-01/1492P.

RR 11-AUG-1999; 9918-01/1492P.

RR 11-AUG-1999; 9918-01/1492P.

RR 11-AUG-1999; 9918-01/1492P.

RR 11-AUG-1999; 9918-01/1492P.

RR 11-AUG-1999; 9918-01/1492P.

RR 11-AUG-1999; 9918-01/1492P.

RR 11-AUG-1999; 9918-01/1492P.

RR 11-AUG-1999; 9918-01/1492P.

RR 11-AUG-1999; 9918-01/1492P.

RR 11-AUG-1999; 9918-01/1492P.

RR 11-AUG-1999; 9918-01/1492P.

RR 11-AUG-1999; 9918-01/1492P.

RR 11-AUG-1999; 9918-01/1492P.

RR 11-AUG-1999; 9918-01/1492P.

RR 11-AUG-1999; 9918-01/1492P.

RR 11-AUG-1999; 9918-01/1492P.

RR 11-AUG-1999; 9918-01/1492P.

RR 11-AUG-1999; 9918-01/1492P.

RR 11-AUG-1999; 9918-01/1492P.

RR 11-AUG-1999; 9918-01/1492P.

RR 11-AUG-1999; 9918-01/1492P.

RR 11-AUG-1999; 9918-01/1492P.

RR 11-AUG-1999; 9918-01/1492P.

RR 11-AUG-1999; 9918-01/1492P.

RR 11-AUG-1999; 9918-01/1492P.

RR 11-AUG-1999; 9918-01/1492P.

RR 11-AUG-1999; 9918-01/1492P.

RR 11-AUG-1999; 9918-01/1492P.

RR 11-AUG-1999; 9918-01/1492P.

RR 11-AUG-1999; 9918-01/1492P.

RR 11-AUG-1999; 9918-01/1492P.

RR 11-AUG-1999; 9918-01/1492P.

RR 11-AUG-1999; 9918-01/1

```
AAC47848 standard; DNA; 1273
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               07.00N-1999;
08.00N-1999;
10.00N-1999;
14.00N-1999;
16.00N-1999;
17.00N-1999;
18.00N-1999;
18.00N-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                      25-MAR-1999;
29-MAR-1999;
01-APR-1999;
06-APR-1999;
19-APR-1999;
21-APR-1999;
21-APR-1999;
22-APR-1999;
30-APR-1999;
30-APR-1999;
30-APR-1999;
40-MAY-1999;
11-MAY-1999;
14-MAY-1999;
15-MAY-1999;
16-MAY-1999;
16-MAY-1999;
17-MAY-1999;
18-MAY-1999;
18-MAY-1999;
18-MAY-1999;
11-MAY-1999;
11-MAY-1999;
12-MAY-1999;
13-MAY-1999;
13-MAY-1999;
13-MAY-1999;
13-MAY-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    01-JUN-1999;
                                                                                                                                                                                                                                                                                          EP1033405-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   25-MAY-1999;
27-MAY-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    28-MAY-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1999;
                                                                                                                         18-OCT-2000
                                                                                                                                                                                                                                                                                                                       06-SEP-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                        23-MAR-1999
                                                                                           AAC47848;
                           RESULT 3
AAC47848
                                                          egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egin{array}{ll} egi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITCGGAAAGGAGAAGTGAGTGATTGGGTTAACTATTTGTCACCTTCACAAGTGGAAAGA 1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAGAAGTTGGAGGTGAACAAGTCAAAGTCGATCAAGAACTTTGAGAATCGATTCTTG 1023
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        843
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        903
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAGAAGTIGGAGGIGAACAAGICAAACAAGICGAICAAGAACITIGAGAAICGAITCIIG 960
                                                                                                                                                               180
                                                                                                                                                                                                                                                                                                                             363
                                                                                                                                                                                                                                                                                                                                                          AAATCCGGTACAACCTGGCTAAAAGCTTTAACTTTCACCATCCTTAACCGTCACCGGTTT 360
                                                                                                                                                                                                                                                                                                                                                                                                                        GATCCGGTTGCCTCGAGTACCAACCACCTCTTTCACTTCCAACGCTCATGACCTTGTA 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            009
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          663
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        723
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         183
                                                                                                                                                                                                                             240
                                                                                                                                                                                                                                                                                            300
                                                                                                                                                                                                                                                                                                                                                                                           423
                                                                                                                                                                                                                                                                                                                                                                                                                                                           483
                                                            123
                                                                                               120
                                                                                                                                                                                              243
                                                                                                                                                                                                                                                              303
                               9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CCTTTCTTCGAGTACAAGCTTTACGCCAACGGAGATGTTCCCGATCTCTGGGGTCTAGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GACGACATCGAGACCAACTTGAAGAGGCTTGCAACTTTCTTAGAGCTTCCTTTCACGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CCCGGTGTGAAGGTCGTGTACTTGTGCCGGAACCCGTTTGACACATTCATCTTCGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CATTACACCAACAACATCAAATCCGAGTCAGTGAGCCCCAGTCTTGCTAGACCAAGCTTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GATCTGTATTGCCGGGGAGTGATCGGGTTTGGCCCGTTTTGGGAACACATGTTGGGATAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TGGAGAGAGCTTGAAGAGACCAGAGAAAGTCTTCTTTTAAGGTACGAGGATCTCAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GACGACATCGAGACCAACTTGAAGAGGCTTGCAACTTTCTTAGAGCTTCCTTTCACCGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GAAGAGGAACGAAAGGGAGTTGTGAAGGCTATCGCCGAGCTGTGTAGCTTCGAGAATCTG
                                                                                                                                                                                                                                               AAGCTCGAGCTCCTTAAAGAAGGCAAAACTCGCGACGTCCCGAAAGCCGAAGAAGATGAA
                                                                                                                ACTCGTTACCTTTACCTATTCCAAGGGTTTTTGGTGCCAAGCCAAAGAGATTCAAGCCATC
                                                                                                                                                                                                                                                                                                                                                                               arescracercassearsassearrecaarsecsareceaagriterecarsitereae
                                                                                                                                                                               ATGICITICCAAAACATITICCAATCCCTCGAAAACGACGTCGTTCTCGCCACCATACCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CCTTTCTTCGAGTACAAGCTTTACGCCAACGGAGATGTTCCCGATCTCTCGGGTCTAGCC
Gaps
.;
                               ATGGCTACCTCAAGCATGAAGAGCATTCCAATGGCGATCCCAAGTTTCT
Indels
.;
0
 Mismatches
   .
0
 Matches 1077; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             604
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          964
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1024
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1084
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               564
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             724
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              844
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 544
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             841
                                    Н
                                                                   64
                                                                                                  61
                                                                                                                                                                    121
                                                                                                                                                                                                  184
                                                                                                                                                                                                                                   181
                                                                                                                                                                                                                                                                  244
                                                                                                                                                                                                                                                                                                   241
                                                                                                                                                                                                                                                                                                                                304
                                                                                                                                                                                                                                                                                                                                                                 301
                                                                                                                                                                                                                                                                                                                                                                                                  364
                                                                                                                                                                                                                                                                                                                                                                                                                               361
                                                                                                                                                                                                                                                                                                                                                                                                                                                               424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                484
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              601
```

qq $\dot{\delta}$ g

g

g

d ò g े g ò 엄 8

δ

d à В ठ

ò

g

Š

g ò ద ò

8

g

dd

ઠે

6 B 6

Ωp ઠે Db

```
Hybridisation assay; genetic mapping; gene expression control; protein identification; signal transduction pathway; metabolic pathway; promoter; termination sequence; ss.
                                                                                              Arabidopsis thaliana DNA fragment SEQ ID NO: 55342.
ВР
                                                                                                                                                                                                                                                                                                                                      99US-0121825P.
99US-0123180P.
99US-0125788P.
99US-0126788P.
99US-0126788P.
99US-0126788P.
99US-01267465P.
99US-0128744P.
99US-0130844P.
99US-0130844P.
99US-0130844P.
99US-0130844P.
99US-0130844P.
99US-0130844P.
99US-0131848P.
99US-0132488P.
99US-0132488P.
99US-0132488P.
99US-0132488P.
99US-0132488P.
99US-0132488P.
99US-0132488P.
99US-0132488P.
99US-0132488P.
99US-0132488P.
99US-0132488P.
99US-0132488P.
99US-0132488P.
99US-0132488P.
99US-0132488P.
99US-0132488P.
99US-0132488P.
99US-0132488P.
99US-0132488P.
99US-0132488P.
99US-0132488P.
99US-0132488P.
99US-0134224P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                99US-0137724P.
99US-0138094P.
99US-0138540P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    990S-0139453P.
990S-0139492P.
990S-0139454P.
990S-0139455P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       99US-0138847P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   99US-0139119P
99US-0139452P
                                                                                                                                                                                                                                                                                                         25-FEB-2000; 2000EP-00301439
                                                                   (first entry)
                                                                                                                                                                                                       Arabidopsis thaliana
```

905-0139458P 905-0139458P 905-0139450P 905-0139460P 905-0139460P 905-0139462P 905-0139462P 905-0139462P 905-013993P 905-013993P 905-0140054P	99US-0140823P. 99US-0141287P. 99US-0141842P. 99US-0141842P. 99US-0142154P. 99US-0142390P. 99US-0142390P. 99US-014232P. 99US-014292P. 99US-0144085P. 99US-0144085P. 99US-0144332P. 99US-0144333P. 99US-0144333P. 99US-0144333P.	9US-0144884P 9US-0144814P 9US-0145088P 9US-0145088P 9US-0145087P 9US-0145087P 9US-0145087P 9US-014524P 9US-0145214P 9US-0145214P 9US-0145214P 9US-0145214P 9US-0145318P 9US-0145318P 9US-0145318P 9US-0145318P 9US-0145318P	9US-0147204P 9US-0147702P 9US-0147702P 9US-0147703P 9US-0147416P 9US-0147416P 9US-0147416P 9US-0147416P 9US-014783EP 9US-01483EP 9US-0148341P 9US-0148341P 9US-0148341P 9US-0148341P 9US-014848EP 9US-014936EP
8 8 8 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	29-UN-1999) 30-UN-1999) 30-UN-1999) 01-UL-1999) 02-UL-1999) 03-UL-1999) 12-UL-1999) 14-UL-1999) 15-UL-1999) 16-UL-1999) 16-UL-1999) 19-UL-1999) 19-UL-1999) 19-UL-1999) 19-UL-1999) 19-UL-1999) 19-UL-1999) 19-UL-1999)	0UUL-1999 11-UUL-1999 11-UUL-1999 11-UUL-1999 2-UUL-1999 2-UUL-1999 3-UUL-1999 3-UUL-1999 3-UUL-1999 4-UUL-1999 7-UUL-1999 8-UUL-1999 8-UUL-1999 8-UUL-1999 8-UUL-1999	4-AUG-1999 4-AUG-1999 5-AUG-1999 5-AUG-1999 6-AUG-1999 9-AUG-1999 9-AUG-1999 1-AUG-1999 1-AUG-1999 3-AUG-1999 3-AUG-1999 6-AUG-1999 8-AUG-1999 6-AUG-1999 8-AUG-1999 8-AUG-1999
***************************************	Z X X X X X X X X X X X X X X X X X X X	\$\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z

```
66 ATGGCGACCTCAAGCATGAAGAGCATTCCAATGGCGATCCCAAGTTTCTCCATGTGTCAC 125
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 ATGCCTACCTCAAGCATGAAGAGCATTCCAATGGCGATCCCAAGTTTCTCCATGTCTCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 1273
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ouery Match 99.7%; Score 1073.8;
Best Local Similarity 99.8%; Pred. No. 0;
Matches 1075; Conservative 0; Mismatches
990S-0149723P

990S-014992BP

990S-0149902P

990S-015066BP

990S-015066BP

990S-0151066P

990S-0151066P

990S-0151030P

990S-0151330P

990S-0151330P

990S-015330P

990S-015403P

990S-015403P

990S-015403P

990S-015403P

990S-015803P

990S-015803P

990S-015803P

990S-015803P

990S-015803P

990S-015803P

990S-015803P

990S-015803P

990S-015803P

990S-015803P

990S-015803P

990S-015903P

990S-015903P

990S-015903P

990S-015903P

990S-016074P

990S-016074P

990S-016074P

990S-016074P

990S-016074P

990S-016074P

990S-016074P

990S-016074P

990S-016074P

990S-016074P

990S-016074P

990S-016074P

990S-016074P

990S-016074P

990S-016074P

990S-016074P

990S-016074P

990S-016074P

990S-016098P

990S-016192P

990S-016193P
20-AUG-1999;
20-AUG-1999;
23-AUG-1999;
23-AUG-1999;
24-AUG-1999;
27-AUG-1999;
28-CCT-1999;
28-CCT-1999;
28-CCT-1999;
21-CCT-1999;
21-CCT-1999;
21-CCT-1999;
21-CCT-1999;
22-CCT-1999;
22-CCT-1999;
22-CCT-1999;
22-CCT-1999;
22-CCT-1999;
22-CCT-1999;
23-CCT-1999;
24-CCT-1999;
25-CCT-1999;
26-CCT-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
 δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
```

ö

```
AAGAAGTIGGAGGIGAACAAGTCAAAGICGAICCAAGAACTITIGAGAATCGAITCIIG 1025
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TITCGGAAAGGAGAAGTGAGTGATTGGGTTAACTATTTGTCACCTTCACAAGTGGAAAGA 1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAGAAGTTGGAGGTGAACAAGTCAAACAAGTCGATCAAGAACTTTGAGAATCGATTCTTG 960
                                                 305
                                                                         300
                                                                                                 365
                                                                                                                          360
                                                                                                                                                  425
                                                                                                                                                                             420
                                                                                                                                                                                                   485
                                                                                                                                                                                                                           480
                                                                                                                                                                                                                                                     545
                                                                                                                                                                                                                                                                                                   605
                                                                                                                                                                                                                                                                                                                            600
                                                                                                                                                                                                                                                                                                                                                      665
                                                                                                                                                                                                                                                                                                                                                                              099
                                                                                                                                                                                                                                                                                                                                                                                                      725
                                                                                                                                                                                                                                                                                                                                                                                                                               720
                                                                                                                                                                                                                                                                                                                                                                                                                                                       785
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        845
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GAAGAAGGAACGAAAAGGAGTTGTGAAGGCTATCGCCGAGCTGTGTAGCTTCGAGAATCTG 965
TIGICAGCCTIAGTGGAGAGAGTIAGGIGGATCTGGTCTCACTITCAGGTTGAGC 1077
                                                                                                                                                                                                                                                                                                                                                                                            CATTACACCAACAACATCAAATCCGAGTCAGTGAGCCCAGTCTTGCTAGACCAAGCTTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TGGAGAGAGACTTGAAGAGACCAGAGAAAGTCTTCTTTTAAGGTACGAGGATCTCAAA
                                      ACTCGTTACCTTTACCTTTTCCAAGGGTTTTGGTGCCAAGCCAAAGAGATTCAAGCCATC
                                                                                                                                                                                                                                         AGTCCAAGAACGTTCGCAACCCACTTACCGTTCGGTTCCCTAAAGGAAACGATCGAGAAA
                                                                                                                                                                                                                                                                                                                                                                                                                               GATCTGTATTGCCGGGGAGTGATCGGGTTTGGCCCGTTTTGGGAACACATGTTGGGATAC
                                                                                                                                                                                                                                                                                                                                                                                                                                            GATCTGTATTGCCGGGAGTGATCGGGTTTGGCCCGTTTTGGGAACACATGTTGGGATAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TGGAGAGAGAGCTTGAAGAGACCAGAGAAAGTCTTCTTTTAAGGTACGAGGATCTCAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GACGACATCGAGACCAACTTGAAGAGGCTTGCAACTTTCTTAGAGCTTCCTTTCACCGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GAAGAGGAACGAAAGGGAGTTGTGAAGGCTATCGCCGAGCTGTGTAGCTTCGAGAATCTG
                                                                         241 ATGICITICCAAAACAITICCAAICCCICGAAAACGACGICGIICTCGCCACCAIACCI
                                                                                         GATCCGGTTGCCTCGAGTACCAACCACCCTCTTTTCACTTCCAACCCTCATGACCTTGTA
                                                                                                                                                                                                                                                                                            CCCGGTGTGAAGGTCGTGTACTTGTGCCCGGAACCCGTTTGACACTTCATCTCTTCGTGG
                                                                                                                                                                                                                                                                                                                                                    cccedicheaagarcararaciteteccegaaccceriteacaritearcriteres
                                                                                                                          301 AAATCCGGTACAACCTGGCTAAAAGCTTTAACTTTCACCATCCTTAACCGTCACCGGTTT
                                                                                                                                              AAATCCGGTACAACTGGCTAAAAGCTTTAAACTTTCACCATCCTTAACCGTCACCGGTTT
                                                                                                                                                                           GATCCGGTTGCCTCGAGTACCAACCACCTCTTTTCACTTCCAACCCTCATGACCTTGTA
                                                                                                                                                                                                                           CCTITCTTCGAGTACAAGCTTTACGCCAACGGAGATGTTCCCGATCTCGGGTCTAGCC
                                                                                                                                                                                                                                                                                                                                                                               CATTACACCAACAACATCAAATCCGAGTCAGTGAGCCCCAGTCTTGCTAGACCAAGCTTTT
                          181
                                                  246
                                                                                                  306
                                                                                                                                                   366
                                                                                                                                                                             361
                                                                                                                                                                                                     126
                                                                                                                                                                                                                                                      486
                                                                                                                                                                                                                                                                              481
                                                                                                                                                                                                                                                                                                                               541
                                                                                                                                                                                                                                                                                                                                                      909
                                                                                                                                                                                                                                                                                                                                                                                                       999
                                                                                                                                                                                                                                                                                                                                                                                                                                                          726
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          786
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           846
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1021
                                                                                                                                                                                                                             121
                                                                                                                                                                                                                                                                                                                                                                               601
                                                                                                                                                                                                                                                                                                                                                                                                                                661
                                                                                                                                                                                                                                                                                                                                                                                                                                                       a
                       ò
                                               g
                                                                   ò
                                                                                             g
                                                                                                                          \delta
                                                                                                                                             B
                                                                                                                                                                   ò
                                                                                                                                                                                                 9
                                                                                                                                                                                                                     8
                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                             à
                                                                                                                                                                                                                                                                                            엄
                                                                                                                                                                                                                                                                                                                            8
                                                                                                                                                                                                                                                                                                                                                   원
                                                                                                                                                                                                                                                                                                                                                                               Š
                                                                                                                                                                                                                                                                                                                                                                                                  엄
                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   \overset{\circ}{\circ}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Op
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Дþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
```

```
This invention relates to a method for modulating flowering in a plant. The method comprises modifying the endogenous level of at least one compound of the jasmonate family in a plant. The methods are used to produce plants which are genetically modified to flower early or tardily when compared to a corresponding plant that is not genetically modified, where the modified plant has an increased (flower early) or lowered (flower tardily) level of jasmonic acid, or a compound of the jasmonate family. The method is useful for a compound of the jasmonate family. The method is useful for a compound of the jasmonate plants that are used in the food-processing industry and plants with norticultural value. The method is particularly useful for e.g. delaying flowering time in crops like lettuce, cabbage, sugar cane or carrots, which results in increased vegetative growth and blomass. The present sequence represents the Arabidopsis thaliana AtST2b gene, which encodes the method of the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Э.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 210
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 168
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      270
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           330
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              288
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACTITCACCATCCTTACCGGTCATCGGTTTGATCCGGTTTCCTCATCAAGTTCGGACCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            G------AAGGCCAAGAAGAAGAAGGCTAAGCTACGAGTTCCAAGAGATGTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      211 TGGTGCCAAGGCCAAAGAGATTCAAGCCATCATGTCTTTCCAAAAAAATTTCCAATCCCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               271 GAAAACGACGTCGTTCTCGCCACATACCTAAATCCGGTACAACCTGGCTAAAAGCTTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                229 ccagacdacerrerececececeraterrateresecencaeceraterata
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACTITICACCATCCTTAACCGTCACCGGTTTGATCCGGTTGCC---TCGAGTACCAACCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    31 ATGGCGATCCCCAAGTTTCTCCATGTGTCACAAGCTCGAGGCTTAAAAGAAGGCAAAACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 Arescearcecaagrirerecargreneaaagececaagererraagsaagscaaaage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         91 CGCGACGTCCCGAAAGCCGAAGAAGATGAAGGGCTAAGCTGCGAGGTTCCAAGAGATGTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GATTCTTCCTAAGGAGAGAGGATGGAGAACTCGTTACCTTTACCTATCCAAGGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
Hydroxyjasmonic acid sulfotransferase, AtST2b; flowering time; cabb
jasmonate; genetically modified plant; lettuce; sugar cane; carrot;
increase vegetative growth; biomass increase; ds.
                                                                                                                                                                                                                                                                                                                                                                                                 Methods for modulating flowering in plants, particularly useful splants used in the food-processing industry, involves modifying endogenous level of compounds of the jasmonate family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 1041;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 1041 BP; 287 A; 241 C; 242 G; 271 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             78.3%; Score 843.6; DB 4;
89.8%; Pred. No. 1.8e-258;
ative 0; Mismatches 89;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Claim 38; Fig 9; 50pp; English.
                                                                                                                                                                                     06-JUL-2000; 2000WO-CA000801
                                                                                                                                                                                                                       99CA-02274873
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Best Local Similarity 89.8
Matches 945; Conservative
                                                                         Arabidopsis thaliana
                                                                                                                                                                                                                                                                                                                                                   WPI; 2001-159272/16.
P-PSDB; AAB49723.
                                                                                                                                                                                                                                                                                                                Varin L, Gidda S;
                                                                                                                                                                                                                                                          (VARI/) VARIN L. (GIDD/) GIDDA S.
                                                                                                               WO200102589-A2
                                                                                                                                                                                                                       06-JUL-1999;
                                                                                                                                                  11-JAN-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             169
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      331
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
     à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             \dot{\delta}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      \ddot{o}
```

Hydroxyjasmonic acid sulfotransferase AtST2b gene.

(first entry)

09-APR-2001

AAF29178
ID AAF2
XX
AC AAF2
XX
DT 09-A
XX
DE Hydx

standard;

AAF29178 AAF29178

RESULT 4

```
1044
                                                                                                                                                                                                                                                                                                                                                                                                                                                       TTGGTTAACTATTTGTCGCCATCACAAGTGGAAAGATTGTCAGCCTTAGTGGATGACAAG 1008
                                                                                                                                                                                                                                                                                                                                                                    888
                                                                                                                                                                                                                                                                                                                                                                                                             948
CCTCTTTCACTTCCAACCCTCATGACCTTGTACCTTTCTTCGAGTACAAGCTTAAGGC 447
                                                                                                                                                  588
                                                                                                                                                                                            648
                                                                                                                                                                                                                                                            804
                                                                                                                                                                                                                                                                                 768
                                                                                                                                                                                                                                                                                                                          828
                                                                                                                                                                                                                                                                                                                                                                                          984
                                          507
                                                             468
                                                                                   567
                                                                                                       528
                                                                                                                             627
                                                                                                                                                                       684
                                                                                                                                                                                                                  744
                                                                                                                                                                                                                                      708
                                                                                                                                                                                                                                                                                                     864
                                                                                                                                                                                                                                                                                                                                               924
                                                                                               CCGTTCGGTGCCCTTAAGGATTCGGTCGAGAATCCCAGTGTGAAGGTTGTGTACCTGTGC
                                                                                                                                                 cecaacccerrreacatricarcrecareresearracarcaacarcacarrecese
                                                                                                                                                                                            rcaerdadececaererrecradaceaacerrrrearcrararrecececaerracreare
                                                                                                                                                                                                                             GAGAAAGTCTTCTTTTAAGGTACGAGGATCTCAAAGACGACATCGAGACCAACTTGAAG
                                                                                                                                                                                                                                                                       GAGAAAGTCTTATTTTTAAAGTACGAGGATCTCAAAGAAGACATCGAACCTAACTTGAAG
                                                                                                                                                                                                                                                                                                                           <u>AAGCTAGCAAGTTTCTTAGGACTTCCTTTCACCGAAGAGAGGACAAAAAGGGGAGTTGTG</u>
                                                                                                                                                                                                                                                                                                                                                                  AAAGCTATCGCTGATCTGTGTAGCTTTGAGAATCTGAAGAAGTTGGAGGTGAACAAGTCA
                                                                                                                                                                                                                                                                                                                                                                                                         TGGGTTAACTATTTGTCACCTTCACAAGTGGAAAGATTGTCAGCCTTAGTGGATGACAAG
                                          AACGGAGATGTTCCCGATCTCTCGGGTCTAGCCAGTCCAAGAACGTTCGCAACCCACTTA
                                                                                                                             CGGAACCCGTTTGACACATTCATCTTCGTGGCATTACACCAACAACATCAAATCCGAG
                                                                                                                                                                       TCAGTGAGCCCAGTCTTGCTAGACCAAGCTTTTGATCTGTATTGCCGGGG---AGTGATC
                                                                                                                                                                                                                   <u>AAGGCTATCGCCGAGCTGTAGCTTCGAGAATCTGAAGAAGTTGGAGGTGAACAAGTCA</u>
                                                                                                                                                                                                                                                                                                                                                                                          CCGTTCGGTTCCCTAAAGGAAACGATCGAGAAACCCGGTGTGAAGGTCGTGTACTTGTGC
                                                                                                                                                                                                                                                                                                      AGGCTTGCAACTTTCTTAGAGCTTCCTTTCACCGAAGAGAGGAACGAAAGGGGAGTTGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TTAGGTGGATCTGGTCTCACTTTCAGGTTGAG 1076
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        949
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1045
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1009
                                          448
                                                                                                       469
                                                                                                                             568
                                                                                                                                                  529
                                                                                                                                                                                            589
                                                                                                                                                                                                                   685
                                                                                                                                                                                                                                      649
                                                                                                                                                                                                                                                            745
                                                                                                                                                                                                                                                                                 709
                                                                                                                                                                                                                                                                                                      805
                                                                                                                                                                                                                                                                                                                           769
                                                                                                                                                                                                                                                                                                                                               865
                                                                                                                                                                                                                                                                                                                                                                    829
                                                                                                                                                                                                                                                                                                                                                                                          925
                                                                                                                                                                                                                                                                                                                                                                                                              889
                                                                                                                                                                                                                                                                                                                                                                                                                                   985
                     349
                                                             409
                                                                                   508
                                                                                                                                                                      628
                                                                                                                                                                                                                                                                          8 % a
                                                                                                                                                                                                                                                                                                                                                                                                       g
                                   8 B 8 B 8 B 8 B 8 B 8
                                                                                                                                                                                                                                                                                                                                       8 8
                                                                                                                                                                                                                                                                                                                                                                                     8
                                                                                                                                                                                                                                                                                                                                                                                                                                  \delta
                                                                                                                                                                                                                                                                                                                                                                                                                                                  유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ලි
             ద
```

Plant; bacterial infection; fungal infection; viral infection; SEQ ID 310 AG. (SYGN) SYNGENTA PARTICIPATIONS BP. 2001WO-IB001105 22-JUN-2001; 2001WO-IB001105 980 gene, (first entry DNA; thaliana Arabidopsis thaliana standard; WO2003000898-A1. 22-JUN-2001; 20-NOV-2003 Arabidopsis 03-JAN-2003 ADA68055 ADA68055; RESULT 5

gg

```
The present invention relates to a method (M1) for identifying genes involved in plant resistance or response to pathogenic infection. M1 comprises identifying a gene whose expression is significantly altered in the incompatible interaction of plant gene expression relative to expression of the gene in an uninfected plant, in a mutant plant that does not express a gene associated with response to pathogenic infection, or in a corresponding incompatible or compatible interaction. (M1) is useful for conferring resistance to resistance or tolerance to a plant to bacterial, fungal or viral infection. The present sequence was used to
                                                                                                                                                                                                                                                                                                                                                                                                                  'n
                                                                                      t 6
                                                                                                                                                                                                                                                                                                                                                                                                                                               171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 291
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              213
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        273
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      411
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  330
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              471
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            387
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          531
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     447
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   591
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 507
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             651
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           267
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       711
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    627
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 771
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            687
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         93
                                                                                   Identifying at least one gene involved in plant resistance or response pathogenic infection for conferring resistance or tolerance to a plant bacterial, fungal or viral infection by determining or detecting plant
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CACAAGTT---TCCAGTTTCTTCTTCTGGTAACCATCCTCTTCTGGTCACCACAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GAAGATGAAGGCTAAGGTTCCAAGAGATGTTGGATTCTCTTAAGGAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         gagarigaagarcrgacacaagaaacaagagcrcrgarcrcrrcrrcrrcraaagagaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GGATGGAGAACTCGTTACCTTTACCTATTCCAAGGGTTTTTGGTGCCAAGGCAAAGAGATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CAAGCCATCATGTCTTTCCAAAACATTTCCAATCCCTCGAAAACGACGTCGTTCTCGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               <u>CAAGGAATCTTGATCTGCCAAAAACGCTTTGAAGCTAAAGATTCCGACATTATCCTCGTC</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACCATACCTAAATCCGGTACAACCTGGCTAAAAGCTTTAAACTTTCACCATCCTTAACCGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        <u> Actaatoctaaatoaggracoactrograaaaacrorrororringororocoaaacoga</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CACCGGTTTGATCCGGTTGCCTCGAGTACCAACCACCCTCTTTTCACTTCCAACCCTCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GACCTTGTACCTTCCAGGTACAGCTTTACGCCAACGGAGATGTTCCCCGATCTCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           crrcridiacccrrcriagaagaacrrracracaagrccccacarrr---caarrrcrcc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GGTCTAGCCAGTCCAAGAACGTTCGCAACCCACTTACCGTTCGGTTCCCTAAAGGAAACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AGTITGCCTICICCAAGACTGATGAACACGCACATAITCGCAICTTTCGCTCCCCGAGTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATCGAGAAACCCGGTGTGAAGGTCGTGTACTTGTGCCGGAACCCGGTTGACACATTCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GITAAGAGCTCGTCTTGTAAGATTGTGTATTGTTGTAGGAACCCTAAGGACATGTTTGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         recitatiggearitigggaaaagetagerecigaggaaaccgcggattatectategaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CAAGCITITGAICTGIAITGCCGGGAGTGAICGGGTTTGGCCCGTTTTGGGAACACATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                568 AAAGCGGTTGAAGCGTTTTGTGAAGGGAAGTTTATAGGTGGACCTTTTTGGGATCATATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TTGGGATACTGGAGAGAGGCTTGAAGAGACCCAGAGAAAGTCTTTTTAAGGTACGAG
                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                 18;
            Hou Y;
r, Zou
                                                                                                                                                                                                                                                                                                                                                                                    Length 980;
                                                                                                                                                                                                                                                                                                                                                          Sequence 980 BP; 282 A; 178 C; 228 G; 292 T; 0 U; 0 Other;
                          Ļ,
                                                                                                                                                                                                                                                                                                                                                                                 Score 229.2; DB 7; Length Pred. No. 3.8e-62; 0; Mismatches 413; Indels
           SA,
Zhu
            Goff
Z,
            Glazebrook J, G
Whitham S, Xie
                                                                                                                                                             Claim 6; SEQ ID NO 310; 899pp; English
              Ϋ́B
                                                                                                                                                                                                                                                                                                                                                                                      cch 21.3%; sl Similarity 54.9%; 525; Conservative (
              Cooper
                                                                                                                                                                                                                                                                                                                             illustrate the invention.
            Chen W, Cc
                                                        WPI; 2003-175290/17.
                                                                                                                                  expression
                            ы
                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Si
Matches 525;
              Chang H,
Katagiri
                                                                                                                                                                                                                                                                                                                                                                                                                                                112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           34
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         214
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    274
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                412
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        388
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      532
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  448
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               592
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           508
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         652
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 712
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               628
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     94
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               154
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       352
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            331
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          472
                                                                                                                                  gene
ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  장염
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
```

ω

```
CGATTCTTGTTTCGGAAAGGAGAAGTGAGTGATTGGGTTAACTATTTGTCACCAA 1011
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  The invention relates to identifying a stress condition to which a plant cell has been exposed, comprising: (a) contacting nucleic acid are prepresentative of expressed polynucleotides in the plant cell with an array or probes representative of the plant cell genome; and (b) detecting a profile of expressed polynucleotides in the plant cell characteristic of a stress response. The method is useful in the production of transgenic plants. The method is useful in the production of transgenic plants, cells and seeds and in producing plants with increased tolerance to abiotic stress. The present sequence is that of an Arabidopsis thaliana stress regulated gene (ABZ12196-ABZ17574) used in methods of the invention. Note: The sequence data for this patent is not represented in the printed specification but is based on sequence information supplied to Derwent by the European Patent Office
                              747
                                                                   891
                                                                                                    TTTAITGAAGAAGAAGAA-----GTGAGAGAGAGATGTGAAGTTGTGTAGCTTT 795
                                                                                                                                     951
                                                                                                                                                                     855
                                                                                                                                                                                                                                         915
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Identifying a stress condition to which a plant cell has been exposed and producing plants with increased tolerance to these abiotic stresses.
831
                                                                                                                                                                                                                                1012 GTGGAAAGATTGTCAGCCTTAGTGGATGACAAGTTAGGTGGATCTGGTCTCACTTT 1067
GATCTCAAAGACGACATCGAGACCAACTTGAAGAGGCTTGCAACTTTCTTAGAGCTTCCT
                              GAGCTAAAGAAGCAGACCGAAGTTGAGATGAAGCGGATCGCGGAGTTCTTGGAATGTGGC
                                                                   TTCACCGAAGAAGAACGAAAGGAAGTTGTGAAGGCTATCGCCGAGCTGTGTAGCTTC
                                                                                                                                                                     796 GAGAGTTTAAGTAATTTGGAAGTTAACAAAGAAAAGGGAAATTGCCAAATGGAATAGAACT
                                                                                                                                     GAGAATCTGAAGAAGTTGGAGGTGAACAAGTCAAACAAGTCGATCAAGAACTTTGAGAAT
                                                                                                                                                                                                                                                                                                           GCAGAGGAAATTGATAGAACCATTGAAGAGAAGTTTAAAAGGTTCTGGTCTTAAATT 971
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Claim 144; SEQ ID NO 2049; 577pp + Sequence Listing; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NO 2049.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Arabidopsis thaliana; plant; gene; stress; transgenic;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQ ID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Arabidopsis thaliana stress regulated gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Zhu T;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SCRIPPS RES INST.
SYNGENTA PARTICIPATIONS AG
                                                                                                                                                                                                                                                                                                                                                                                                BP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Wang X,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         24-AUG-2000; 2000US-0227866P.
26-JAN-2001; 2001US-0264647P.
22-JUN-2001; 2001US-0300111P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          24-AUG-2001; 2001WO-US026685.
                                                                                                                                                                                                                                                                                                                                                                                                ABZ14244 standard; DNA; 981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Kreps J,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Arabidopsis thaliana
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WPI; 2002-304127/34
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WO200216655-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  21-JAN-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          28-FEB-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GF,
                                                                                                                                                                                                        952 (
772
                              889
                                                                   832
                                                                                                  748
                                                                                                                                     392
                                                                                                                                                                                                                                                                                                            916
                                                                                                                                                                                                                                                                                                                                                                                                                                 ABZ14244;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (SCRI ) S
(SYGN ) S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Harper
                                                                                                                                                                                                                                                                                                                                                                                ABZ14244
ID ABZ
                                                                                                                                                                                                                                                                                                                                                                 RESULT 6
                                                                                                                                                                  ВÞ
                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                   8
                                                                                              В
                                                                                                                                   8
                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                          ઠે
                                                                                                                                                                                                                                                                                                       원
ઠ
```

```
'n
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    952 CGATTCTTGTTTCGGAAAGGAGAAGTGAGTGATTGGGTTAACTATTTGTCACCATCACAA 1011
                                                               171
                                                                                                                                                          153
                                                                                                                                                                                                                                                                                  273
                                                                                                                                                                                                                                                                                                                    411
                                                                                                                                                                                                                                                                                                                                                330
                                                                                                                                                                                                                                                                                                                                                                                                               387
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           447
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               687
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    915
                                                                                                                           231
                                                                                                                                                                                        291
                                                                                                                                                                                                                     213
                                                                                                                                                                                                                                                    351
                                                                                                                                                                                                                                                                                                                                                                                471
                                                                                                                                                                                                                                                                                                                                                                                                                                             531
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       507
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     567
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   711
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 627
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               771
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              831
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            747
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          891
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        748 Tritaricaacaacaacaa------crcacacacaricicaacricicaacrir 795
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        951
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      796 GAGAGITITAAGIAAITITGGAAGITAACAAAGAAGGAAATITGCCAAAIGGAAITAGAGACI 855
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           591
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       651
                                                                                           93
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1012 GTGGAAAGATTGTCAGCCTTAGTGGATGACAAGTTAGGTGGATCTGGTCTCACTTT 1067
                                                                                                                                                                                                                                                                               214 ACTARICCTARATCAGGTACCACTIGGITARARGCICTIGICTTIGCICTTCCTTARCCGA
                                                                                                                                                                                                                                                                                                                                                  274 cacaagir---recagninerrerrengeraccarecrerrengereaceae
                                                                                                                                                                                                                                                                                                                                                                                                            331 cricirérecerrerredangantraciaceacteceadairi---daarreree
                                                               CTTCCTAAGGAGAGA
                                                                                              34 GGAGATGAAGATCTGACAAGAACAAGAGCTCTGATCTCTTCTCTTCTAAAGAGAAA
                                                                                                                                                          TCCTTATGGCATTTTGGGAAAAGCTAGCTCCTGAGGAAACCGCGGATTATCCTATCGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CAAGCTTTTGATCTGTATTGCCGGGGAGTGATCGGGTTTTGGCCCCGTTTTGGGAACACATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GATCTCAAAGACGACATCGAGACCAACTTGAAGAGGCTTGCAACTTTCTTAGAGCTTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GAGCTAAAGAAGCAGACCGAAGTTGAGATGAAGCGGATCGCGGAGTTCTTGGAATGTGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GAGAATCTGAAGATTGGAGGTGAACAAGTCAAACAAGTCGATCAAGAACTTTGAGAAT
                                                                                                                           GGATGGAGAACTCGTTACCTTATTCCAAGGGTTTTGGTGCCAAGCCAAAGAGATT
                                                                                                                                                                                          CAAGCCATCATGTCTTTCCAAAACATTTCCAATCCCTCGAAAACGACGTCGTTCTCGCC
                                                                                                                                                                                                                 154 CAAGGAATCTTGATCTGCCAAAAACGCTTTGAAGCTAAAAGATTCCGACATTATCCTCGTC
                                                                                                                                                                                                                                                      ACCATACCTAAATCCGGTACAACCTGGCTAAAAGCTTTAACTTTCACCATCCTTAAACGT
                                                                                                                                                                                                                                                                                                                    CACCGGTTTGATCCCGGTTGCCTCGAGTACCAACCACCTCTTTTCACTTCCAACCCTCAT
                                                                                                                                                                                                                                                                                                                                                                                 GACCTIGIACCTTCTTCGAGTACAAGCTTTACGCCAACGGAGATGTTCCCGATCTCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                             472 GGTCTAGCCAGTCCAAGAACGTTCGCAACCCACTTACCGTTCGGTTCCCTAAAGGAAACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          388 AGITIGCCTTCTCCAAGACTGATGAACACGCACATATCGCATCTTTCGCTCCCCGAGTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           532 ATCGAGAAACCCGGTGTGAAGGTCGTGTACTTGTGCCGGAACCCGTTTGACACTTCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       448 Giraadagcregreirgraadairdridrigragdaadeeraaddacardirgre
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TCTTCGTGGCATTACACCAACAACAACAATCCGAGTCAGTGAGCCCCAGTCTTGCTAGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 568 AAAGCGGTTGAAGCGTTTTGTGAAGGGAAGTTTATAGGTGGACCTTTTGGGATCATATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TTGGGATACTGGAGAGAGAGCTTGAAGAGACCAGAGAAAGTCTTTTTAAGGTACGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TTCACCGAAGAAGAACGAAAGGGAGTTGTGAAGGCTATCGCCGAGCTGTATGCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  <u>aaaacririciriragaaaaggagagarregaggagagagagaracririgagrgagrcarre</u>
                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              gcagaggaaattgatagaaccartgaagagaagirtaaaggtrcrggrcrraaarr 971
                                 18;
   Length 981;
                               Indels
                                                                GAAGATGAAGGCTAAGCTGCGAGTTCCAAGAGATGTTGGATTCT
Score 229.2; DB 6;
Pred. No. 3.8e-62;
0; Mismatches 413;
 21.3%;
ilarity 54.9%;
Conservative
                   Similarity
   Query Match
Best Local Simi
Matches 525;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             772 (
                                                                                                                              172
                                                                                                                                                                                                                                                      292
                                                                                                                                                                                                                                                                                                                                                                                   412
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       508
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      652
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              688
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              832
                                                               112
                                                                                                                                                                                          232
                                                                                                                                                                                                                                                                                                                    352
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       592
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  712
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  628
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          892
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 916
                                                                ଧ
                                                                                           d
                                                                                                                              à
                                                                                                                                                       g
                                                                                                                                                                                        ò
                                                                                                                                                                                                                   d
                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                           엄
                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                \dot{\varsigma}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   \dot{\delta}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              d
```

BP.

RESULT 7 ABZ42036 ID ABZ42036 standard; cDNA; 981 XX

Sequence 981 BP; 283 A; 178 C; 228 G; 292 T; 0 U; 0 Other;

387 531

471

```
952 CGATTCTTGTTTCGGAAAGGAGAAGTGAGTGATTGGGTTAACTATTTGTCACCTTCACAA 1011
GTGGAAAGATTGTCAGCCTTAGTGGATGACAAGTTAGGTGGATCTGGTCTCACTTT 1067
                                                                                                   criciigieccciiciiggaagagariiaciacgagiccccagairi---cgairicicc
                                                                                                                                                                                    388 AGITIGCCTICICCAAGACTGAAGACACGCACAIATCGCATCTITCGCTCCCCGAGTCT
                                                                                                                                                                                                                           ATCGAGAAACCCGGTGTGAAGGTCGTGTACTTGTGCCGGAACCCGTTTGACACATTCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                568 AAAGCGGTTGAAGCGTTTTTGTCAAGGGAAGTTTATAGGTGGACCCTTTTGGGATCATATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GATCTCAAAGACGACATCGAGACCAACTTGAAGAGGCTTGCAACTTTCTTAGAGCTTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TTCACCGAAGAAGAACGAAAGGGAGTTGTGAAGGCTATCGCCGAGCTGTGTAGCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GAGAGTTTAAGTAATTTGGAAGTTAACAAAGAAGGGAAATTGCCAAATGGAATAGAACT
                                                              GACCTTGTACCTTTCTTCGAGTACAAGCTTTACGCCAACGGAGATGTTCCCGATCTCTCG
                                                                                                                                             GGTCTAGCCAGTCCAAGAACGTTCGCAACCCACTTACCGTTCGGTTCCCTAAAGGAAACG
                                                                                                                                                                                                                                                                  GTTAAGAGCTCGTCTTGTAAGATTGTGTATTGTTGTAGGAACCCTAAGGACATGTTTGTG
                                                                                                                                                                                                                                                                                                         TCTTCGTGGCATTACACCAACAACAACAACAACAACAACAGAGTCGAGTCAGTGAGCCCAGTCTTGCTAGAC
                                                                                                                                                                                                                                                                                                                                                recritarescaritricesaaaaacraecrecreaseaaaccecesaritarecraresa
                                                                                                                                                                                                                                                                                                                                                                                           CAAGCTTTTGATCTGTATTGCCGGGGAGTGATCGGGTTTTGGCCCCGTTTTGGGAACACATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TTGGGATACTGGAGAGAGGCTTGAAGAGACCAGAGAAAGTCTTCTTTTAAGGTACGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Tregagracregranecaaecceceaeaarcceaacaacererrerrerracraaceae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GAGCTAAAGAAGCAGACCGAAGTTGAGATGAAGCGGATCGCGGAGTTCTTGGAATGTGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 748 TITATIGAAGAAGAAGAA-----GIGAGAGAGAGATIGIGAAGTIGIGIAGCITT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GAGAATCTGAAGAAGTTGGAGGTGAACAAGTCAAACAAGTCGATCAAGAACTTTGAGAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                916 GCAGAGGAAATTGATAGAACCATTGAAGAGAAGTTTAAAGGTTCTGGTCTTAAATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Hybridisation assay; genetic mapping; gene expression control; protein identification; signal transduction pathway; metabolic promoter; termination sequence; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Arabidopsis thaliana DNA fragment SEQ ID NO: 35341.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   99US-0121825P.
99US-0123180P.
99US-0123548P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAC42382 standard; DNA; 1043
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2000EP-00301439.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Arabidopsis thaliana
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   25-FEB-1999;
05-MAR-1999;
09-MAR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              25-FEB-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EP1033405-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      17-0CT-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       06-SEP-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     628
                                                                                                        331
                                                                                                                                               472
                                                                                                                                                                                                                             532
                                                                                                                                                                                                                                                                      448
                                                                                                                                                                                                                                                                                                             592
                                                                                                                                                                                                                                                                                                                                                    508
                                                                                                                                                                                                                                                                                                                                                                                           652
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              712
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     688
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            832
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             892
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      964
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            772
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAC42382
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                            à
                                                                                           요
                                                                                                                                      ∂
                                                                                                                                                                                  g
                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             The invention relates to a novel isolated polynucleic acid segment modulated within a cell by posttranscriptional gene silencing (PTGS). The properties probable to a method to identify an expression product that is modulated by PTGS. The polynucleotide is useful for modulating the gene expression within a cell by PTGS, by introducing the polynucleic acid into a cell and expressing the nucleic acid segment in the cell to form a product. The polynucleic acid segment is also useful for augmenting a cell genome, and for augmenting a plant genome, by cell, and growing the transformed plant to produce a transformed plant transformed plant. The segments of plant produce a differentiated transformed plant. The segments by PTGS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       213
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              291
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACTAATCCTAAATCAGGTACCACTTGGTTAAAAGCTCTTGTTTTGCTCTCCTTAAACGA 273
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 352 CACCGGTTTGATCCGGTTGCCTCGAGTACCAACCACCCTCTTTTCACTTCCAACCCTCAT 411
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       93
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Novel polynucleic acid segment useful for modulating gene expression within a cell by posttranscriptional gene silencing, and for augmenting plant cell genome.
                                                                                                                             Posttranscriptional gene silencing; PTGS; plant; transformation; gene;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GAAGATGAAGGCCTAAGCTGCGAGTTCCAAGAGATGTTGGATTCTCTTCCTAAGGAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CAAGCCATCATGTCTTTCCAAAACATTTCCAATCCCTCGAAAACGACGTCGTTCTCGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     caaggaarctroarctgccaaaaacgcrtrgaagcraaagarrccgacarrarccrcgrc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 292 ACCATACCTAAATCCGGTACAACCTGGCTAAAAGCTTTAACTTTCACCATCCTTAACCGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GGATGGAGAACTCGTTACCTATTCCAAGGGTTTTGGTGCCAAGCCAAAGAGATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB 7; Length 981;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 981 BP; 283 A; 178 C; 228 G; 292 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           413;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             21.3%; Score 229.2; DB 7
llarity 54.9%; Pred. No. 3.8e-62;
Conservative 0; Mismatches 413.
                                                                                    Arabidopsis thaliana gene #20 modulated by PTGS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ħ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Chang
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Claim 18; Page 194-195; 438pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Wang X,
                                                                                                                                                                                                                               Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SYNGENTA PARTICIPATIONS AG. FRIEDRICH MIESCHER INST.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Glazov EA, Meins F,
                                                                                                                                                                                                                                                                                                                                                                                                05-APR-2002; 2002WO-EP003806.
                                                                                                                                                                                                                                                                                                                                                                                                                                       06-APR-2001; 2001US-0282049P.
                                                                                                                                                                                                                                                1. .981
/*tag=
                                                                                                                                                                                        Arabidopsis thaliana.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WPI; 2003-103337/09
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          P-PSDB; ABP81192
                                                                                                                                                                                                                                                                                                               WO200281695-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         525;
                                                                                                                                                                                                                                                                                                                                                         17-OCT-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         34
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  232
        ABZ42036;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         94
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            154
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (SYGN )
(FRIE-)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Zhu T,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Best Loca
Matches
```

891 795 951

pathway;

임 ઠ 셤 8 a à

```
990S - 0144086 p.
990S - 0144086 p.
990S - 0144331 p.
990S - 0144332 p.
990S - 0144332 p.
990S - 0144332 p.
990S - 0144332 p.
990S - 0144332 p.
990S - 0144333 p.
990S - 0144333 p.
990S - 014508 p.
990S - 014508 p.
990S - 014508 p.
990S - 014508 p.
990S - 014508 p.
990S - 014508 p.
990S - 014508 p.
990S - 014508 p.
990S - 014508 p.
990S - 014508 p.
990S - 014508 p.
990S - 014508 p.
990S - 014508 p.
990S - 014508 p.
990S - 014508 p.
990S - 014508 p.
990S - 014508 p.
990S - 014608 p.
990S - 0149175 p.
990S - 0149175 p.
990S - 0149175 p.
990S - 0149175 p.
990S - 0149175 p.
990S - 0149175 p.
990S - 0149175 p.
990S - 0149175 p.
990S - 0149175 p.
990S - 0149175 p.
990S - 0149175 p.
990S - 0149175 p.
990S - 0149175 p.
990S - 0149175 p.
990S - 0149175 p.
990S - 0149175 p.
990S - 0149175 p.
990S - 01508 p.
990S - 01508 p.
990S - 01508 p.
990S - 01508 p.
990S - 01508 p.
990S - 01508 p.
990S - 01508 p.
990S - 01508 p.
990S - 01508 p.
990S - 01508 p.
990S - 01508 p.
990S - 01508 p.
990S - 01508 p.
990S - 01508 p.
990S - 01508 p.
990S - 01508 p.
990S - 01508 p.
990S - 01508 p.
990S - 01508 p.
990S - 01508 p.
990S - 01508 p.
990S - 01508 p.
990S - 01508 p.
990S - 01508 p.
990S - 01508 p.
990S - 01508 p.
990S - 01508 p.
990S - 01508 p.
990S - 01508 p.
990S - 01508 p.
990S - 01508 p.
990S - 01508 p.
990S - 01508 p.
990S - 01508 p.
990S - 01508 p.
990S - 01508 p.
990S - 01508 p.
16-70L-1999;
16-70L-1999;
19-70L-1999;
19-70L-1999;
19-70L-1999;
19-70L-1999;
19-70L-1999;
20-70L-1999;
20-70L-1999;
21-70L-1999;
22-70L-1999;
22-70L-1999;
22-70L-1999;
23-70L-1999;
                                                                                                                                                                                                                                                                   28 - JUL - 1999

22 - AUG - 1999

02 - AUG - 1999

03 - AUG - 1999

04 - AUG - 1999

05 - AUG - 1999

06 - AUG - 1999

06 - AUG - 1999

06 - AUG - 1999

10 - AUG - 1999

11 - AUG - 1999

12 - AUG - 1999

13 - AUG - 1999

13 - AUG - 1999

14 - AUG - 1999

15 - AUG - 1999

18 - AUG - 1999

20 - AUG - 1999

20 - AUG - 1999

21 - AUG - 1999

22 - AUG - 1999

23 - AUG - 1999

24 - AUG - 1999

25 - AUG - 1999

26 - AUG - 1999

27 - AUG - 1999

28 - AUG - 1999

28 - AUG - 1999

29 - AUG - 1999

20 - AUG - 1999

21 - AUG - 1999

22 - AUG - 1999

23 - AUG - 1999

24 - AUG - 1999

25 - AUG - 1999

26 - AUG - 1999

27 - AUG - 1999

28 - AUG - 1999

28 - AUG - 1999

29 - AUG - 1999

20 - AUG - 1999

21 - AUG - 1999

22 - AUG - 1999

23 - AUG - 1999

24 - AUG - 1999

25 - AUG - 1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 30-AUG-1999;
31-AUG-1999;
01-SEP-1999;
07-SEP-1999;
10-SEP-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     13 - SEP - 1999
15 - SEP - 1999
16 - SEP - 1999
16 - SEP - 1999
22 - SEP - 1999
23 - SEP - 1999
24 - SEP - 1999
25 - SEP - 1999
26 - SEP - 1999
27 - SEP - 1999
28 - SEP - 1999
   990S-0125788P

990S-0126264P

990S-0128234P

990S-0128234P

990S-01300777P

990S-01300917P

990S-0130091P

990S-0132868P

990S-0132868P

990S-0132868P

990S-0132868P

990S-0132868P

990S-0132868P

990S-0132868P

990S-0132868P

990S-0132868P

990S-0134218P

990S-0134218P

990S-0134218P

990S-0134218P

990S-0134218P

990S-0134218P

990S-0134218P

990S-0134218P

990S-0134218P

990S-0134218P

990S-0134218P

990S-0134218P

990S-0134218P

990S-0134457P

990S-0139465P

990S-0139465P

990S-0139465P

990S-0139465P

990S-0139465P

990S-0139465P

990S-0139465P

990S-0139465P

990S-0139465P

990S-0139465P

990S-0139465P

990S-0139465P

990S-0139465P

990S-0139465P

990S-0139465P

990S-01403948P

990S-0140394P

990S-0140394P

990S-0140394P

990S-0140394P

990S-0140394P

990S-0141284P

990S-0141284P

990S-0141284P

990S-0141284P

990S-0141284P

990S-0141284P

990S-0141284P

990S-0141284P

990S-0142059P
 23 - MAR - 1999;
25 - MAR - 1999;
01 - APR - 1999;
06 - APR - 1999;
16 - APR - 1999;
16 - APR - 1999;
17 - APR - 1999;
18 - APR - 1999;
23 - APR - 1999;
23 - APR - 1999;
30 - APR - 1999;
30 - APR - 1999;
05 - MAY - 1999;
06 - MAY - 1999;
06 - MAY - 1999;
06 - MAY - 1999;
07 - MAY - 1999;
                                                                                                                                                                                                                                                                                                  1-MAY-1999;
5-MAY-1999;
7-MAY-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -JUN-1999;
-JUN-1999;
-JUN-1999;
                                                                                                                                                                                                                                                                                                                                                                                                          - 5002-1
- 5002-1
                                                                                                                                                                                                                                                                                                                                  -MAY-
```

```
1011
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        The invention relates to identifying a stress condition to which a plant cell has been exposed, comprising: (a) contacting nucleic acid argressentative of expressed polymucleotides in the plant cell with an array or probes representative of the plant cell genome; and (b) detecting a profile of expressed polymucleotides in the plant cell characteristic of a stress response. The method is useful in the production of transgenic plants, cells and aseeds and in producing plants with increased tolerance to abiotic stress. The present sequence is that of an Arabidopsis thaliana stress regulated gene (ABZ12196-ABZ1574) used
                             689
                                                                                                                              749
                                                                                                                                                                                 831
                                                                                                                                                                                                                                    809
                                                                                                                                                                                                                                                                                     891
                                                                                                                                                                                                                                                                                                                                     857
                                                                                                                                                                                                                                                                                                                                                                                     951
                                                                                                                                                                                                                                                                                                                                                                                                                                      917
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Identifying a stress condition to which a plant cell has been exposed and producing plants with increased tolerance to these abiotic stresses.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GTGGAAAGATTGTCAGCCTTAGTGGATGACAAGTTAGGTGGATCTGGTCTCACTTT 1067
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GCAGAGGAAATTGATAGAACCATTGAAGAGAAGTTTTAAAGGTTCTGGTCTTAAATT 1033
630 AAAGCGGTTGAAGCGTTTTGTGAAGGGAAGTTTATAGGTGGACCCTTTTGGGATCATATA
                                                                                                                                                                                                                                                                                     TTCACCGAAGAAGAACGAAGGAGTTGTGAAGGCTATCGCCGAGCTGTGTAGCTTC
                                                                                                                                                                                                                                 750 GAGCTAAAGAAGCAGACCGAAGTTGAGATGAAGCGGATCGCGGAGTTCTTGGAATGTGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                         858 GAGAGTTTAAGTAATTTGGAAGTTAACAAAGAAGGGAAATTGCCAAATGGAATAGAACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CGATICTIGITICGGAAAGGAGAAGIGAGIGATIGGGITIAACIAITIGICACCTICACAA
                                                                                TTGGGATACTGGAGAGAGAGCTTGAAGAGACCAGAGAAAGTCTTTTTAAGGTACGAG
                                                                                                                              rriegagracinegrareceaegeceaegaarecegaacaaeaacaaegrerrerrierracriaegae
                                                                                                                                                                                 GATCTCAAAGACGACATCGAGACCAACTTGAAGAGGCTTGCAACTTTCTTAGAGCTTCCT
                                                                                                                                                                                                                                                                                                                                  810 TTTATTGAAGAAGAAGAA------GTGAGAGAGATTGTGAAGTTGTGTAGCTTT
                                                                                                                                                                                                                                                                                                                                                                                   GAGAATCTGAAGAAGTTGGAGGTGAACAAGTCAAACAAGTCGATCAAGAACTTTGAGAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Claim 144; SEQ ID NO 1027; 577pp + Sequence Listing; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Arabidopsis thaliana stress regulated gene SEQ ID NO 1027
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             thaliana; plant; gene; stress; transgenic;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ĥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Zhu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (SCRI ) SCRIPPS RES INST.
(SYGN ) SYNGENTA PARTICIPATIONS AG.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  24-AUG-2000; 2000US-0227866P.
26-JAN-2001; 2001US-0264647P.
22-JUN-2001; 2001US-0300111P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Wang X,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    24-AUG-2001; 2001WO-US026685.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ABZ13222
ID ABZ13222 standard; DNA; 996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Harper JF, Kreps J,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Arabidopsis thaliana.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WPI; 2002-304127/34.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WO200216655-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            21-JAN-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Arabidopsis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    28-FEB-2002
                                                                                                                                                                                                                                                                                     832
                                                                                                                              069
                                                                                                                                                                                                                                                                                                                                                                                     892
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         952
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1012
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ABZ13222;
                                                                                712
                                                                                                                                                                                 772
                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8
                                                                                                                                                                                 ઠે
                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                  à
                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                     8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                155
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       629
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GAAGATGAAGGCTAAGCTGCGAGTTCCAAGAGATGTTGGATTCTCTTCCTAAGGAGAGA 171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 215
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    275
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           411
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            crrcirigiaciccirciraciaagagrrraciacaagrcccagarri...-caarricicc 449
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               531
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                509
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     591
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      651
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    291
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACTAATCCTAAATCAGGTACCACTTGGTTAAAAGCTCTTGTCTTTGCTCTCCTTAACCGA 335
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CACAAGIT---TCCAGITITCTTCTTCTGGTAACCATCCTCTTCTGGTCACCAATCCACAC 392
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GACCTIGIACCTTTCGAGTACAAGCTTTACGCCAACGAGATGTTCCCGATCTCTCG 471
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CAAGCTTTTGATCTGTATTGCCGGGGAGTGATCGGGTTTGGCCCGTTTTGGGAACACATG 711
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gripaksakorocorororaksakitaristaristrorosaksakororaassakorororos
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             geagargaagarcreacaagaaacaagagcrergarcrerrerrerreragaaaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GGATGGAGAACTCGTTACCTTTACCTATTCCAAGGGTTTTGGTGCCAAGCCAAAGAGATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 <u>é</u>driderradorga a para para de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita de la composita del la composita de la composita de la composita del la composita del la composita del la composita del la composita del la composita del la composita della composita della composita della composita della composita della composita della composita della composita della composita della composita della composita della composita della composita della composita della composita della composita della composita della composita della comp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CAAGCCATCATGTCTTTCCAAAAAATTTCCAATCCCTCGAAAACGACGTCGTCTCGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CAAGGAATCTTGATCTGCCAAAAACGCTTTGAAGCTAAAGATTCCGACATTATCCTCGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACCATACCTAAATCCGGTACAACCTGGCTAAAAGCTTTTAACTTTCACCATCCTTAACCGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CACCGGTTTGATCCGGTTGCCTCGAGTACCAACCACCTCTTTTCACTTCCAACCCTCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GGTCTAGCCAGTCCAAGAACGTTCGCAACCCACTTACCGTTCGGTTCCCTAAAGGAAACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AGTTTGCCTTCTCCAAGACTGATGAACACGCACATATCGCATCTTTCGCTCCCCGAGTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATCGAGAAACCCGGTGTGAAGGTCGTGTACTTGTGCCGGAACCCGTTTGACACATTCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TCTTCGTGGCATTACACCAACAACATCAAATCCGAGTCAGTGAGCCCAGTCTTGCTAGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       rccrrarioscarrrrossaaaaacrracrosrosaaaaccscosarrarccrarcsaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 1043;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 229.2; DB 3; Length Pred. No. 4e-62; ); Mismatches 413; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0
                                                                                                                                                                                                                                                                                                                                                        9905-0160740P
9905-0160710P
9905-0160814P-
9905-0160980P
9905-0160980P
9905-01619080P
9905-0161404P-
9905-0161359P-
9905-0161359P-
9905-0161350P-
9905-0161350P-
9905-0161350P-
9905-0161920P-
9905-0161920P-
9905-0161920P-
  99US-0158029P.
99US-0158232P.
99US-0158234P.
99US-0159294P.
99US-0159294P.
99US-0159230P.
99US-0159331P.
99US-0159331P.
                                                                                                                                                                                                                                                                                  99US-0159584P.
99US-0160741P.
99US-0160767P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            21.3%;
larity 54.9%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Matc.
Best Local Simi)
                                                                           13-OCT-1999;
13-OCT-1999;
13-OCT-1999;
14-OCT-1999;
14-OCT-1999;
14-OCT-1999;
                                                                                                                                                                                                                                                                                                          -OCT-1999;
                                                                                                                                                                                                                                                            -OCT-1999;
                                                                                                                                                                                                                                                                                                                                                                                     -OCT-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                      -OCT-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -OCT-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          -OCT-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         OCT-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            OCT-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            412
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  450
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   510
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          652
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                96
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 156
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        276
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           352
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           336
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            393
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               472
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   532
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      592
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       570
```

유 8 g &

음 상 음

2.

g

\$ 8 \$

8 8

8 8 8

q

us-10-019-931-1.rng

88888

g

6 6 6 6

pp

ઠે

g

ò

ò

8 6 8 6 8

B, 6

상염

S q

엄

8 8

 δ

상 유 Dp

ò

ò

```
25-WAR-1999

10-APR-1999

10-APR-1999

10-APR-1999

116-APR-1999

123-APR-1999

123-APR-1999

123-APR-1999

123-APR-1999

123-APR-1999

123-APR-1999

123-APR-1999

124-MAY-1999

124-MAY-1999

124-MAY-1999

124-MAY-1999

124-MAY-1999

124-MAY-1999

124-MAY-1999

124-MAY-1999

125-MAY-1999

126-MAY-1999

127-MAY-1999

128-MAY-1999

128-MAY-1999

128-MAY-1999

138-MAY-1999

148-MAY-1999

148-MAY-1999

188-MAY-1999

1999

1999

1999

1999

1999

1999

1999

1999

1999

1999

1999

1999

1999

1999

1999

1999
                                                                                                                                                                                                                                                                                                                                                  25-FEB-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             24-MAY-1999;
25-MAY-1999;
27-MAY-1999;
28-MAY-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             14-JUN-1999;
16-JUN-1999;
16-JUN-1999;
                                                                                                                                                           17-OCT-2000
                                                                                                                                                                                                                                                                                               EP1033405-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          04-JUN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  01-JUN-1999
                                       968
                                                                                                                                   AAC37672;
                                                                                RESULT 10
                                                                                             AAC3767
                                                                                                                        8
                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GGGTTAACTATTTGTCACCTTCACAAGTGGAAAGATTGTCAGCCTTAGTGGATGACAAGT 1045
                                                                                                          2
                                                                                                                                                                                                                                            265
                                                                                                                                                                                                                                                                                                                         256
                                                                                                                                                                                                                                                                                                                                                    385
                                                                                                                                                                                                                                                                                                                                                                                                                                                           505
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               565
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           745
                                                                                                                                                                                        205
                                                                                                                                                                                                                 136
                                                                                                                                                                                                                                                                      196
                                                                                                                                                                                                                                                                                               325
                                                                                                                                                                                                                                                                                                                                                                              310
                                                                                                                                                                                                                                                                                                                                                                                                       445
                                                                                                                                                                                                                                                                                                                                                                                                                                370
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   craaraccaaaricceearcreecaaagrarrerrerecrargarerrirreracaeaea 430
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    625
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             547
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       685
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                607
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     667
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                805
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        727
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   865
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            787
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       925
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               847
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          985
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    907
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  dgaagaarcatratadgccacaaargdcdaaaaccitrgardagatratrdacratagac 967
                                                                                                                                                             96
in methods of the invention. Note: The sequence data for this patent is not represented in the printed specification but is based on sequence information supplied to Derwent by the Buropean Patent Office
                                                                                                                                                                                                                                                                    errefregracránceaa a caracteca a esta contra a contra a caracter ca a esta contra a contra a contra a contra a
                                                                                                                                   86 AAACTCGCGACGTCCCGAAAGCCGAAGAAGATGAAGGCTAAGCTGCGAGTTCCAAGAGA
                                                                                                                                                                                        TGTTGGATTCTCTTTCTTAAGGAGAGAAGGATGGAGAACTCGTTACCTTTACCTATTCCAAG
                                                                                                                                                                                                            GGTTTTGGTGCCAAGCCAAGGGTTCAAGCCATCATGTCTTTCCAAAAACATTTCCAAT
                                                                                                                                                                                                                                                                                                 CCCTCGAAAACGACGTCGTTCTCGCCACCATACCTAAATCCGGTACAACCTGGCTAAAAG
                                                                                                                                                                                                                                                                                                                         caceadaracreararacrecrecerrerrececeaageregaaceaeregaar
                                                                                                                                                                                                                                                                                                                                                  CTTTAACTTTCACCATCCTTAACCGTCACCGGTTGATCCGGTTGCCTCGAGTACCAACC
                                                                                                                                                                                                                                                                                                                                                                      ACCCTCTTTTCACCTTCAACCCTCATGACCTTGTACCTTTCTTCGAGTACAAGCTTTACG
                                                                                                                                                                                                                                                                                                                                                                                                                                recactracaaccarrecercaaccaccaccacaaaa---ecrrecaaaaccerararerer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GCCGGAACCCGTTTGACACATTCATCTTCGTGGCATTACACCAACAACAATCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       626 AGICAGIGAGCCCAGICTIGCIAGACCAAGCTTTTGAICTGIATTGCCGGGGAGTGAICG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      <u> agaangircirircargaagiacgaagagaraarrgaggagccrcgrgrrcaagicaaga</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GGCTTGCAACTTTCTTAGAGCTTCCTTTCACCGAAGAAGAAGGAACGAAAGGGAGTTGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AGGCTATCGCCGAGCTGTAGCTTCGAGAATCTGAAGAAGTTGGAGGTGAACAAGTCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AGGAGATCTTGAAGTTGTAGTTTTACGAATTTTAAGCAATTTGGAGGTTAATAAGAATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ggacaacdagaarreggrefadarrefeagrefrefriraddaadgegaadregfearr
                                                                                                                                                             AAGCTCATCACCTTCCAAACTACATGAAAGACGACAACGTTAGTCAAGAAACCAAGAACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                           CCAACGGAGATGTTCCCGATCTCTCGGGTCTAGCCAGTCCAAGAACGTTCGCAACCCACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TACCGTTCGGTTCCCTAAAGGAAACGATCGAGAAACCCCGGTGTGAAGGTCGTGTACTTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GTAGAGGTATCAAAGATACGTTTGTCTCCGGCTGGCATTATAGAAACATGTTGCATCGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               548 CCAAGAIGGAICAAGCCACTITIGAGCICAIGITIGAIGCITATIGIAGAGGAGTICICT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AGAAAGTCTTCTTTTAAGGTACGAGGATCTCAAAGACGACATCGAGACCAACTTGAAGA
                                                                                                           Gaps
                                                                                                          <u>و</u>
..
                                                                               20.4%; Score 219.2; DB 6; Length 996; 53.0%; Pred. No. 6.1e-59; Artive 0; Mismatches 453; Indels 9
                                                     Sequence 996 BP; 306 A; 199 C; 213 G; 278 T; 0 U; 0 Other;
                                                                                                           Conservative
                                                                                             Similarity
                                                                                                Local Simi
es 520;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         899
                                                                                                                                                                                                                 77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     848
                                                                                                                                                                                                                                                                      137
                                                                                                                                                                                                                                                                                                                         197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       998
                                                                                                                                                                                         146
                                                                                                                                                                                                                                            506
                                                                                                                                                                                                                                                                                                                                                                              257
                                                                                                                                                                                                                                                                                                                                                                                                        386
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 909
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         431
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               488
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  788
                                                                                  Query Match
                                                                                                                                                              17
                                                                                                                                                                                                                                                                                                 992
                                                                                                                                                                                                                                                                                                                                                    326
                                                                                                                                                                                                                                                                                                                                                                                                                                 311
                                                                                                                                                                                                                                                                                                                                                                                                                                                            446
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      371
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    908
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              728
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                986
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        806
```

```
| 104 | 1047 | 1047 | 1047 | 1047 | 1047 | 1047 | 1047 | 1047 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1048 | 1
```

```
PR 17-JUN-1999 99US-0139452P.

PR 18-JUN-1999 99US-0139454P.

PR 18-JUN-1999 99US-0139455P.

PR 18-JUN-1999 99US-0139455P.

PR 18-JUN-1999 99US-0139455P.

PR 18-JUN-1999 99US-0139455P.

PR 18-JUN-1999 99US-0139453P.

PR 22-JUN-1999 99US-0139453P.

PR 19-JUN-1999 99US-0139453P.

PR 19-JUN-1999 99US-0139453P.

PR 19-JUN-1999 99US-013945P.

PR 19-JUN-1999 99US-013945P.

PR 19-JUN-1999 99US-013945P.

PR 19-JUN-1999 99US-013945P.

PR 19-JUN-1999 99US-013945P.

PR 19-JUN-1999 99US-013945P.

PR 19-JUN-1999 99US-014433P.

PR 19-JUN-1999 99US-014433P.

PR 19-JUN-1999 99US-014433P.

PR 22-JUN-1999 99US-01433P.

PR 22-JUN-1999 99US-014433P.

PR 22-JUN-1999 99US-014433P.

PR 22-JUN-1999 99US-014433P.

PR 22-JUN-1999 99US-014433P.

PR 22-JUN-1999 99US-014433P.

PR 22-JUN-1999 99US-014433P.

PR 22-JUN-1999 99US-014433P.

PR 22-JUN-1999 99US-014433P.

PR 22-JUN-1999 99US-014433P.

PR 22-JUN-1999 99US-014433P.

PR 22-JUN-1999 99US-014433P.

PR 22-JUN-1999 99US-014433P.

PR 22-JUN-1999 99US-014433P.

PR 22-JUN-1999 99US-014433P.

PR 22-JUN-1999 99US-014433P.

PR 22-JUN-1999 99US-014433P.

PR 22-JUN-1999 99US-014433P.

PR 22-JUN-1999 99US-014433P.

PR 22-JUN-1999 99US-014433P.

PR 22-JUN-1999 99US-014433P.

PR 22-JUN-1999 99US-014433P.

PR 22-JUN-1999 99US-014433P.

PR 22-JUN-1999 99US-014433P.

PR 22-JUN-1999 99US-014433P.

PR 22-JUN-1999 99US-014433P.

PR 22-JUN-1999 99US-014433P.

PR 22-JUN-1999 99US-014433P.

PR 22-JUN-1999
```

PR 15-AUG-1999 99US-014664P
PR 20-AUG-1999 99US-0149188P
PR 20-AUG-1999 99US-0149188P
PR 20-AUG-1999 99US-0149188P
PR 23-AUG-1999 99US-014918P
PR 23-AUG-1999 99US-014918P
PR 23-AUG-1999 99US-014918P
PR 24-AUG-1999 99US-014064P
PR 25-AUG-1999 99US-014064P
PR 27-AUG-1999 99US-014066P
PR 27-AUG-1999 99US-014066P
PR 27-AUG-1999 99US-014066P
PR 27-AUG-1999 99US-014066P
PR 27-AUG-1999 99US-014018P
PR 27-AUG-1999 99US-014018P
PR 27-AUG-1999 99US-014648P
PR 27-AUG-1999 99US-014648P
PR 27-AUG-1999 99US-014648P
PR 27-AUG-1999 99US-014648P
PR 27-AUG-1999 99US-014648P
PR 27-AUG-1999 99US-014648P
PR 27-AUG-1999 99US-014648P
PR 27-AUG-1999 99US-014648P
PR 27-AUG-1999 99US-014648P
PR 27-AUG-1999 99US-014648P
PR 27-AUG-1999 99US-014648P
PR 27-AUG-1999 99US-014648P
PR 27-AUG-1999 99US-014648P
PR 27-AUG-1999 99US-014648P
PR 27-AUG-1999 99US-014648P
PR 27-AUG-1999 99US-014648P
PR 27-AUG-1999 99US-014648P
PR 27-AUG-1999 99US-014644P
PR 27-AUG-1999 99US-014644P
PR 27-AUG-1999 99US-014644P
PR 27-AUG-1999 99US-014644P
PR 27-AUG-1999 99US-014644P
PR 27-AUG-1999 99US-014644P
PR 27-AUG-1999 99US-014644P
PR 27-AUG-1999 99US-014644P
PR 27-AUG-1999 99US-014644P
PR 27-AUG-1999 99US-014644P
PR 27-AUG-1999 99US-014644P
PR 27-AUG-1999 99US-014644P
PR 27-AUG-1999 99US-014644P
PR 27-AUG-1999 99US-014644P
PR 27-AUG-1999 99US-014644P
PR 27-AUG-1999 99US-014644P
PR 27-AUG-1999 99US-014644P
PR 27-AUG-1999 99US-014644P
PR 27-AUG-1999 99US-014644P
PR 27-AUG-1999 99US-014644P
PR 27-AUG-1999 99US-014644P
PR 27-AUG-1999 99US-014644P
PR 27-AUG-1999 99US-014644P
PR 27-AUG-1999 99US-014644P
PR 27-AUG-1999 99US-014644P
PR 27-AUG-1999 99US-014644P
PR 27-AUG-1999 99US-014644P
PR 27-AUG-1999 99US-014644P
PR 27-AUG-1999 99US-014644P
PR 27-AUG-1999 99US-014644P
PR 27-AUG-1999 99US-014644P
PR 27-AUG-1999 99US-014644P
PR 27-AUG-1999 99US-014644P
PR 27-AUG-1999 99US-014644P
PR 27-AUG-1999 99US-014644P
PR 27-AUG-1999 99US-014644P
PR 27-AUG-1999 99US-014644P
PR 27-AUG-1999 99US-014644P
PR 27-AUG-1999 99US-014644P
PR 27-AUG-1999 99US-014644P
PR 27-AUG-1999 99US-014644P

~

Gaps

ő

Length 1154;

Score 219.2; DB 3; Pred. No. 6.5e-59; 0; Mismatches 453;

Ouery Match Best Local Similarity 53.0%; Matches 520; Conservative

86 109 146

8 8 8

205

TGTTGGATTCTCTTCCTAAGGAGAGAGGAGGAGAACTCGTTACCTTTACCTATTCCAAG

```
Hybridisation assay; genetic mapping; gene expression control; protein identification; signal transduction pathway; metabolic pathway; promoter; termination sequence; ss.
                                                                                                                                                                                                 9900S-0121825P

990S-0123180P

990S-0125788P

990S-0126264P

990S-012625P

990S-0127462P

990S-0127463P

990S-0128214P

990S-0130831P

990S-0130831P

990S-0132467P

990S-0132467P

990S-0132467P

990S-0132487P

990S-0132487P

990S-0132487P

990S-0132487P

990S-0132487P

990S-0134768P

990S-0134768P

990S-0134768P

990S-0134768P

990S-0134768P

990S-0134768P

990S-0134768P

990S-0134768P

990S-0134768P

990S-0134768P

990S-0134768P

990S-0134768P

990S-0134768P

990S-0134768P

990S-0134768P

990S-0134768P

990S-0134768P

990S-0134458P

990S-0139458P

990S-0139458P

990S-0139458P

990S-0139458P

990S-0139458P

990S-0139468P

990S-0139458P

990S-0139468P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               99US-0139899P
                                                                       Arabidopsis thaliana
                                                                                                                                                                                                                                                                                                                                                                                                                     23-APR-1999;
28-APR-1999;
30-APR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     25-MAY-1999;
27-MAY-1999;
28-MAY-1999;
                                                                                                   EP1033405-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     4-MAY-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      .9-MAY-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      20-MAY-1999;
21-MAY-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     24-MAY-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      6-JUN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8-JUN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8-JUN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0-JUN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0-JUN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       4-JUN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      6-JUN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8-JUN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    .8-JUN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8-JUN-1999
                                                                                                                                      06-SEP-2000
                                                                                                                                                                                                                                                                                                                                -APR-1
                                                                                                                                                                                                                                                                                                                                                                        .9-APR-1
        GGGTTAACTATTTGTCACCTTCACAAGTGGAAAGATTGTCAGCCTTAGTGGATGACAAGT 1045
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GGAAGAATCATCTTACGCCACAAATGGCGAAAACCTTTGATGAGATTATTGACTATAGAC 1059
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        985
                                                                                                                                                                                                                                         445
                                                                                                                                                                                                                                                                       462
                                                                                                                                                                                                                                                                                                        505
                                                                                                                                                                                                                                                                                                                                                                        565
                                                                                                                                                                                                                                                                                                                                                                                                      579
                                                                                                                                                                                                                                                                                                                                                                                                                                       625
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        639
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       685
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       669
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        745
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       759
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        805
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      819
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       865
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      879
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       925
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       939
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       999
                                                                                                        325
                                                                                                                                       348
                                                                                                                                                                                                        402
                                                                                                                                                                                                                                                                                                                                         522
        TGATCACTICTCTACCTTCAGACAAAGATTTCATGGGTTATGGTCTCTACAACTACAAAG 228
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Accacarctroaactricrorranaccaartrraaccaartriccacctraaraacaarc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      940 ggacaacgagaarregreragarrercaggrerirrraggaaaggreaagregrearr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GCCTTGCAACTTTCTTAGAGCTTCCTTTCACCGAAGAAGAAGAAGGAAAGAGGAGTTGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AGGCTATCGCCGAGCTGTGTAGCTTCGAGAATCTGAAGAAGTTGGAGGTGAACAAGTCAA
                                                                                                                                Arccittgcrcttacaaacccrcatgacctrgrccattrcrgaggrrgagtratacg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GTAGAGGTATCAAGATACGTTTGTCTCCGGCTGGCATTATAGAAACATGTTGCATCGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gacitodeceaetitetinggangiceatiteaceaaggaagaagaagaagaagategite
                                                                   driciridenacraticanacacriccandecentricares de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra dela contra de la contra de la contra de la contra de la contra dela contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra del la contra del la contra del la contra de la contra de la contra de la contra del la contra del la contra de la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra 
                                                                                                        CCCTCGAAAACGACGTCGTTCTCGCCACCATACCTAAATCCGGTACAACCTGGCTAAAAG
                                                                                                                                                                       CTTTAACTTTCACCATCCTTAACCGTCACCGGTTTGATCCGGTTGCCTCGAGTACCAACC
                                                                                                                                                                                                                                                                                                         CCAACGGAGATGTTCCCGATCTCTGGGTCTAGCCAGTCCAAGAACGTTCGCAACCACT
                                                                                                                                                                                                                                                                                                                                       craaragecaaarrecegareregeaaagrarrererererargarerreraeaea
                                                                                                                                                                                                                                                                                                                                                                        TACCGTTCGGTTCCCTAAAGGAAACGATCGAGAAACCCGGTGTGAAGGTCGTGTACTTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                         GCCGGAACCCGTTTGACACATTCATCTTCGTGGCATTACACCAACAACAACAATCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       626 AGTCAGTGAGCCCAGTCTTGCTAGACCAAGCTTTTGATCTGTATTGCCGGGGAGTGATCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ccaagaridgaricaadccacririrdagcricargirirgargcriaringradagdagrictric
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TATATGGACCTTATTGGGAACATGTATTGAGCTATTGGAAAGGGAGCTTGGAAGCAAAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AGAAAGTCTTCTTTTAAGGTACGAGGATCTCAAAGACGACATCGAGACCAACTTGAAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        926 ACAAGTCGATCAAGAACTTTGAGAATCGATTCTTGTTTCGGAAAGGAGAAGTGAGTT
                                         GGTTTTGGTGCCAAGCCATCAAGCCATCATGTCTTTCCAAAAACATTTCCAAAT
                                                                                                                                                                                                      ccciaatititcgcigitgiacatagagaaaagi-----accgcggagcccicaaacac
                                                                                                                                                                                                                                         ACCCTCTTTTCACTTCCAACCCTCATGACCTTGTACCTTTCTTCGAGTACAAGCTTTACG
                                                                                                                                                                                                                                                                                                                                                                                                      recacitracaaecarrecereaaeccaccacaaa---ecrrecaaaccerararerer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Arabidopsis thaliana DNA fragment SEQ ID NO: 24289.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TAGGTGGATCTGGTCTCACTTT 1067
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAC39344 standard; DNA; 1212
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       17-OCT-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1046
            169
                                             206
                                                                          229
                                                                                                          266
                                                                                                                                           289
                                                                                                                                                                            326
                                                                                                                                                                                                           349
                                                                                                                                                                                                                                            386
                                                                                                                                                                                                                                                                          403
                                                                                                                                                                                                                                                                                                           446
                                                                                                                                                                                                                                                                                                                                           463
                                                                                                                                                                                                                                                                                                                                                                            909
                                                                                                                                                                                                                                                                                                                                                                                                           523
                                                                                                                                                                                                                                                                                                                                                                                                                                          999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            746
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          908
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            820
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          880
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAC39344;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         qq
                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        d
                                           8
                                                                   g
                                                                                                   Š
                                                                                                                                       g
                                                                                                                                                                          ઠ્ઠ
                                                                                                                                                                                                    g
                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                     a
                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                            ठे
```

```
99US-01406354P

99US-0140632P

99US-014083P

99US-0141284P

99US-0141284P

99US-014284P

99US-014284P

99US-014284P

99US-014284P

99US-014284P

99US-014284P

99US-014284P

99US-014332P

99US-0144332P

99US-0144332P

99US-0144334P

99US-0144334P

99US-0144334P

99US-0144334P

99US-0144334P

99US-0144334P

99US-0144334P

99US-0145088P

99US-0144334P

99US-0144334P

99US-0144334P

99US-0144334P

99US-0144334P

99US-0144334P

99US-0144334P

99US-0144334P

99US-0144334P

99US-0144334P

99US-0144334P

99US-0145218P

99US-0145218P

99US-014531P

99US-014531P

99US-014531P

99US-014531P

99US-014531P

99US-014531P

99US-014732P

99US-014933EP

99US-014933EP

99US-014933EP

99US-014933EP

99US-014933EP

99US-014933EP

99US-014933EP

99US-014933EP

99US-014933EP

99US-014933EP

99US-014933EP

99US-014933EP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                23 - 70L - 1999

25 - 70L - 1999

27 - 70L - 1999

27 - 70L - 1999

28 - 70L - 1999

28 - 70L - 1999

28 - 70L - 1999

29 - 70L - 1999

20 - AUG - 1999

40 - AUG - 1999

60 - AUG - 1999

60 - AUG - 1999

60 - AUG - 1999

61 - AUG - 1999

62 - AUG - 1999

63 - AUG - 1999

64 - AUG - 1999

65 - AUG - 1999

66 - AUG - 1999

67 - AUG - 1999

68 - AUG - 1999

69 - AUG - 1999

60 - AUG - 1999

60 - AUG - 1999

61 - AUG - 1999

62 - AUG - 1999

63 - AUG - 1999

64 - AUG - 1999

65 - AUG - 1999

66 - AUG - 1999

67 - AUG - 1999

68 - AUG - 1999

69 - AUG - 1999

69 - AUG - 1999

60 - AUG - 1999

60 - AUG - 1999

60 - AUG - 1999

61 - AUG - 1999

61 - AUG - 1999

62 - AUG - 1999

63 - AUG - 1999

64 - AUG - 1999

65 - AUG - 1999

66 - AUG - 1999

66 - AUG - 1999

67 - AUG - 1999

67 - AUG - 1999

68 - AUG - 1999

69 - AUG - 1999

60 - AUG - 1999

60 - AUG - 1999

60 - AUG - 1999

60 - AUG - 1999

60 - AUG - 1999

60 - AUG - 1999

60 - AUG - 1999

60 - AUG - 1999

60 - AUG - 1999

60 - AUG - 1999

60 - AUG - 1999

60 - AUG - 1999

60 - AUG - 1999

60 - AUG - 1999

60 - AUG - 1999

60 - AUG - 1999

60 - AUG - 1999

60 - AUG - 1999

60 - AUG - 1999

60 - AUG - 1999

60 - AUG - 1999

60 - AUG - 1999

60 - AUG - 1999

60 - AUG - 1999

60 - AUG - 1999

60 - AUG - 1999

60 - AUG - 1999

60 - AUG - 1999

60 - AUG - 1999

60 - AUG - 1999

60 - AUG - 1999

60 - AUG - 1999

60 - AUG - 1999

60 - AUG - 1999

60 - AUG - 1999

60 - AUG - 1999

60 - AUG - 1999

60 - AUG - 1999

60 - AUG - 1999

60 - AUG - 1999

60 - AUG - 1999

60 - AUG - 1999

60 - AUG - 1999

60 - AUG - 1999

60 - AUG - 1999

60 - AUG - 1999

60 - AUG - 1999

60 - AUG - 1999

60 - AUG - 1999

60 - AUG - 1999

60 - AUG - 1999

60 - AUG - 1999

60 - AUG - 1999

60 - AUG - 1999

60 - AUG - 1999

60 - AUG - 1999

60 - AUG - 1999

60 - AUG - 1999

60 - AUG - 1999

60 - AUG - 1999

60 - AUG - 1999

60 - AUG - 1999

60 - AUG - 1999

60 - AUG - 1999

60 - AUG - 1999

60 - AUG - 1999

60 - AUG - 1999

60 - AUG - 1999

60 - AUG - 1999

60 - AUG - 1999

60 - AUG - 1999

60 - A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  27-AUG-1999;
30-AUG-1999;
31-AUG-1999;
```

1-SEP-1999; 99US-015336P -SEP-1999; 99US-015336P -SEP-1999; 99US-015336P -SEP-1999; 99US-015376BP -SEP-1999; 99US-015403P -SEP-1999; 99US-0154379P -SEP-1999; 99US-0154378P -SEP-1999; 99US-015558P -SEP-1999; 99US-015558P -SEP-1999; 99US-015578F -SEP-1999; 99US-015732P -CCT-1999; 99US-015322P -CCT-1999; 99US-015329P -CCT-1999; 99US-015329P -CCT-1999; 99US-015329P -CCT-1999; 99US-0155294P -CCT-1999; 99US-0155329P -CCT-1999; 99US-0155329P -CCT-1999; 99US-0155329P -CCT-1999; 99US-015532P -CCT-1999; 99US-015584P -CCT-1999; 99US-016588P -CCT-1999; 99US-016588P -CCT-1999; 99US-016588P -CCT-1999; 99US-016588P -CCT-1999; 99US-016588P -CCT-1999; 99US-016588P -CCT-1999; 99US-016588P -CCT-1999; 99US-016588P -CCT-1999; 99US-016440P -CCT-1999; 99US-016440P -CCT-1999; 99US-0164136P -CCT-1999; 99US	atch cal Similarity 53.0%; Bred. No. 5.1e-53; Sale Conservative 0; Mismatches 432; Indels 24; Gaps 104. AAGCGAAGAAGATGAAGGGCTAAGCTCCAAGAGATTTGCTTCCTTC
	Query Ma Best Loc Matches Qy Qy Db Db Qy Db Qy Db Qy Db Qy Cy Db Cy Cy Cy Cy Cy Cy Cy Cy Cy Cy Cy Cy Cy

```
99US-0126784P.
99US-0126785P.
99US-012874P.
99US-0128744P.
99US-0138744P.
99US-0130477P.
99US-013049P.
99US-0131449P.
99US-0131449P.
99US-0131448P.
99US-0132448P.
99US-0132484P.
99US-0132484P.
99US-0132484P.
99US-0132484P.
99US-0132484P.
99US-0132484P.
99US-0132484P.
99US-0132484P.
99US-013421P.
99US-013422P.
99US-013422P.
99US-013422P.
99US-013422P.
99US-013422P.
99US-013422P.
99US-013424P.
99US-013424P.
99US-013424P.
99US-013424P.
99US-013445P.
99US-013945P.
99US-013945P.
99US-013945P.
99US-013945P.
99US-013945P.
99US-013945P.
99US-013945P.
99US-013945P.
99US-013945P.
99US-013945P.
99US-013945P.
99US-013945P.
99US-013945P.
99US-013945P.
99US-013945P.
99US-013945P.
99US-013945P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   9905 01398999 9905 0140353P 9908 01406353P 9908 01406353P 9908 0140823P 9908 01412842P 9908 0142390P 9908 0142390P 9908 0142390P 9908 0142390P 9908 0142390P 9908 0142390P 9908 0142390P 9908 0142390P 9908 0142390P 9908 0142390P 9908 0142390P 9908 0142390P 9908 0142390P 9908 0142390P 9908 0142390P 9908 0142390P 9908 0142390P 9908 0142390P 9908 0142390P 9908 0142390P 9908 0142390P 9908 0142390P 9908 0142390P 9908 0142390P 9908 0142390P 9908 0142390P 9908 0142390P 9908 0142390P 9908 0142390P 9908 0142390P 9908 0142390P 9908 0142390P 9908 0142390P 9908 0142390P 9908 0142394P 9908 0143624P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           99US-0144005P
99US-0144085P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 14-JUL-1999;
15-JUL-1999;
16-JUL-1999;
25-MAR-1999;
29-MAR-1999;
06-APR-1999;
08-APR-1999;
08-APR-1999;
16-APR-1999;
19-APR-1999;
23-APR-1999;
23-APR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                23-JUN-1999;
23-JUN-1999;
24-JUN-1999;
                                                                                                                                                                                                                                                                                                                                                               07-JUN-1999;
08-JUN-1999;
10-JUN-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                            16-JUN-1999;
17-JUN-1999;
18-JUN-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        18-JUN-1999;
18-JUN-1999;
18-JUN-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      18-JUN-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                          18-JUN-1999;
18-JUN-1999;
18-JUN-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8-JUN-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           22-JUN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    30-JUN-1999;
                                                                                                                                                                                                                                                                                                                       28-MAY-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               .8-JUN-1999
                                                                                                         28-APR-1999;
                                                                                                                30-APR-1999
                                                                                                                                                                                                                                                                                       -MAY-1999
                                                                                                                                                                                                                                                                                                                                                                                                                   6-JUN-1999
  TGTCACCTTCACAAGTGGAAAGATTGTCAGCCTTAGTGGATGACAAGTTAGGTGGATCTG 1057
                                                                                                                                                                                                                                                                                                                                                                                                                           reacrecionanteganaleantegacareatrerenedadanarerenedecrere 1012
                                                                                                                                                                                                               712
                                                                                                                                                                                                                                     817
                                                                                                                                                                                                                                                                             877
                                                                                                                                                                                                                                                                                                rciradarngriccarrcacaaagaadaadaagaracredaggrigragacaagarcrrgg 832
                                                                                                                                                                                                                                                                                                                                            892
                                                                                                                                                                                                                                                                                                                                                                577
                                                                                    538
                                                                                                         637
                                                                                                                             592
                                                                                                                                                   697
                                                                                                                                                                       652
                                                                                                                                                                                            757
                                                                                                                                                                                                                                                         772
                                                                                                                                                                                                                                                                                                                        AGCTGTGTAGCTTCGAGAATCTGAAGAAGTTGGAGGTGAACAAGTCAAACAAGTCGATCA 937
                                                                                                                                                                                                                                                                                                                                                                                    aaggagtaagtttcaagagttttttccgtaaaggggaagttggtgattggaggtaia 952
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Hybridisation assay, genetic mapping, gene expression control, protein identification, signal transduction pathway; metabolic pathway, promoter, termination sequence; ss.
                                                                                                                                                                                                                                                                                                                                            <u> Aactiticitetetaagaaccitagegerriggagarcaacaaaacaggaagerretegg</u>
   ATCCTCATGAGCTAGTGCCGTACCTCGAGCTCGATCTTTATCTCAAAAGCTCGAAACCGG
                                                                                                                                                                                                                                                     iciigaetacaagagataaagacagaaccacaagacaaaatcaagagactigcagagi
                                                                                                                                                                                                                                                                             TCTTAGAGCTTCCTTTCACCGAAGAAGAACGAAAGGGAAGTTGTGAAGGCTATCGCCG
                                   CCCTAAAGGAAACGATCGAGAAACCCGGTGTGAAGGTCGTGTACTTGTGCCGGAACCCGT
                                                                            578 TIGACACATICATCICTTCGTGGCATTACACCAACAACAACAACAACGAGTCAGTGAGCC
                                                                                                                            aridacgratricarrridgrefrircgaaaacrecarda-----gregagaaaaca
                                                                                                                                                                        ATTTAAGTCTCGAGGCTTTGTTCGAGTCTTATGTAGCGGAGTTAACTTATGCGGTCCCT
                                                                                                                                                                                           TTTGGGAACACATGTTGGGATACTGGAGAGAGAGTCTTGAAGAGACCAGAGAAAGTCTTCT
                                                                                                                                                                                                               TITIAAGGIACGAGGATCICAAAGACGACATCGAGACCAACTIGAAGAGGCTIGCAACTI
                       ATCT-----CTCGGGTCTAGCCAGTCCAAGAACGTTCGCAACCTTACCGTTCGGTT
                                                                                                                                                   CAGICITGCTAGACCAAGCTTTTGATCTGTATTGCCGGGGAGTGATCGGGTTTTGGCCCGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Arabidopsis thaliana DNA fragment SEQ ID NO: 17688
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAC37521 standard; DNA; 1205 BP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         99US-0121825P.
99US-0123180P.
99US-0123548P.
99US-0125788P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2000EP-00301439
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                    1058 GTCTCACTTT 1067
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GITTGAAATT 1022
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Arabidopsis thaliana
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          25-FEB-1999;
05-MAR-1999;
09-MAR-1999;
23-MAR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       25-FEB-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EP1033405-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       17-OCT-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   06-SEP-2000
                                                                                                                                                                                             698
     359
                         464
                                               419
                                                                  518
                                                                                      479
                                                                                                                                 539
                                                                                                                                                    638
                                                                                                                                                                         593
                                                                                                                                                                                                                    653
                                                                                                                                                                                                                                       758
                                                                                                                                                                                                                                                            713
                                                                                                                                                                                                                                                                                  818
                                                                                                                                                                                                                                                                                                      773
                                                                                                                                                                                                                                                                                                                           878
                                                                                                                                                                                                                                                                                                                                              833
                                                                                                                                                                                                                                                                                                                                                                    938
                                                                                                                                                                                                                                                                                                                                                                                         893
                                                                                                                                                                                                                                                                                                                                                                                                            866
                                                                                                                                                                                                                                                                                                                                                                                                                                 953
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1013
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAC37521;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 12
AAC37521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                     QQ
                                                                                                                                                                                                             Db
                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                8
                                                                                                                                                                                                                                                                                                    P
                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                              d
                                                                                                                                                                                                                                                                                                                                                                  8
                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                         ò
                                           임
                                                                 ઠ
                                                                                d
                                                                                                           ò
                                                                                                                           d
                                                                                                                                              8
                                                                                                                                                                                             ò
```

9US-0144086P 9US-014431P 9US-0144331P 9US-0144333P 9US-0144333P 9US-014432P 9US-014432P 9US-0144632P 9US-0146632P 9US-0146634P 9US-0146634P	99US-0145089P. 99US-014518P. 99US-014518P. 99US-014518P. 99US-014518P. 99US-014524P. 99US-0145218P. 99US-0145218P. 99US-0145313P. 99US-0145318P. 99US-0146588P. 99US-0147302P. 99US-0147303P. 99US-0147303P. 99US-0147303P. 99US-0147303P. 99US-0147303P. 99US-0147303P. 99US-0147303P. 99US-0147303P. 99US-0147303P. 99US-0147303P. 99US-0147303P. 99US-0147303P. 99US-0147303P. 99US-0147303P. 99US-0147303P. 99US-0147303P. 99US-0147303P. 99US-014936P. 99US-014936P. 99US-014936P. 99US-014936P. 99US-014936P. 99US-014936P. 99US-014936P. 99US-014936P. 99US-014936P. 99US-014936P. 99US-014936P. 99US-0151065P. 99US-0151065P. 99US-0151065P. 99US-015139P. 99US-015139P. 99US-015139P. 99US-015139P. 99US-015139P. 99US-015139P. 99US-0153758P.	00S-0157117 00S-0157753 00S-0157865 00S-0158029
16-JUL-199 19-JUL-199 19-JUL-199 19-JUL-199 19-JUL-199 19-JUL-199 20-JUL-199 20-JUL-199 20-JUL-199 21-JUL-199 21-JUL-199 21-JUL-199 21-JUL-199 21-JUL-199	PR 22-JUL-1999; PR 23-JUL-1999; PR 23-JUL-1999; PR 23-JUL-1999; PR 23-JUL-1999; PR 23-JUL-1999; PR 27-JUL-1999; PR 27-JUL-1999; PR 27-JUL-1999; PR 27-JUL-1999; PR 27-JUL-1999; PR 02-AUG-1999; PR 02-AUG-1999; PR 04-AUG-1999; PR 05-AUG-1999; PR 05-AUG-1999; PR 13-AUG-1999; PR 13-AUG-1999; PR 13-AUG-1999; PR 13-AUG-1999; PR 23-AUG-1999; PR 24-ASEP-1999; PR 23-AUG-1999; PR 23-AUG-1999; PR 24-ASEP	04-0CT-199 05-0CT-199 06-0CT-199 07-0CT-199

12-OCT-1999; 99US-0158132P. 13-OCT-1999; 99US-0158232P. 13-OCT-1999; 99US-0159234P. 13-OCT-1999; 99US-0159234P. 14-OCT-1999; 99US-015925P. 14-OCT-1999; 99US-0159310P. 14-OCT-1999; 99US-0159310P. 14-OCT-1999; 99US-0159311P. 14-OCT-1999; 99US-0159318P. 18-OCT-1999; 99US-0159634P. 21-OCT-1999; 99US-016074P. 21-OCT-1999; 99US-016074P. 21-OCT-1999; 99US-016078P. 22-OCT-1999; 99US-016014P. 22-OCT-1999; 99US-016014P. 22-OCT-1999; 99US-0161404P. 22-OCT-1999; 99US-0161404P. 22-OCT-1999; 99US-0161404P. 25-OCT-1999; 99US-016135P. 26-OCT-1999; 99US-016136P. 26-OCT-1999; 99US-016136P. 26-OCT-1999; 99US-016136P. 26-OCT-1999; 99US-016139P. 28-OCT-1999; 99US-016139P. 28-OCT-1999; 99US-016139P. 28-OCT-1999; 99US-016139P. 28-OCT-1999; 99US-016139P.	Query Match Best Local Similarity 52.6%; Pred. No. 6.5e-51; Matches 508; Conservative 0; Mismatches 433; Indels 24; Gaps 3; 109 GAAGAAGAAGAAGCTAAGCTGCGAGTTCCAAAGAGATTCTTCTTCCTAAGGAG 168	77 00	229 AITCAAGCCATCATGTCTITCCAAAACATTTCCAATCCCTCGAAAACGACGTCGTTCTC 288	289 GCCACCATACTAATTCCGGTACAACCTGGCTAAAAGCTTTAACTTTCACCATCCTTAAC 348	349 CGICACCGGTITGATCCGGTIGCCTCGAGTACCAACCACCTCTTTTCACTICCAACCCT 408	409 CATGACCTIGTACCTITCGAGTACATTTACGCCAACGGAGATGTTCCCGATCTC 468	469 TCGGGTCTAGCCAGTCCAAGAACGTTCGCAACCCACTTACCGTTCGGTTCCCTA 522	523 AAGGAAACGGTGAGAAACCGGTGTGAAGGTCGTGTACTTGTGCCGGAACCGTTTGAC 582 	583 ACATTCATCTCTGGGGATTACACCAACAACATCAAATCCGAGTCAGGGGGGGG	43 TIGCTAGACCAAGCTTTTGATCTGTATTGCCGGGGGGGGGTCGGGGTTTGG 70
K	\dot{\dot{\dot{\dot{\dot{\dot{\dot{	& 8	S G	ð 8	\$ f	\$ B	\$ B	\$ 6 6	\$ A	λo.

m ..

19;

Indels

g 8 g ò g ò

Length 1400;

314 376 374 436

434 496 494 556

554

ò 음 δ 임 ò d 8

```
caactecicesesacatectacereseresaresaresearesada a 1029
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TCGGAAAGGAGAAGTGATTGGGTTAACTATTGTCACCTTCACAGTGGAAAGATT 1022
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         850 gcacgreadaaccengeceagricerragagrecegricacercaacaacae 909
                                                                   The invention relates to novel ryegrass (Lolium) or fescue (Festuca) nucleic acids encoding thionin (TH), thaumatin-like (TL), elicitor-responsive (ER) or defensin (DEF) proteins and polynucleotides encoding such proteins. Sequences of the invention are useful to modify disease and/or pest resistance, plant defence response and/or protein storage in plants. The nucleotide sequence information and/or single nucleotide polymorphisms of the nucleic acid are useful as genetic markers. They are
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            910 cdelacricridelacadericerdacidreriacirircadalacricaldalacridenter
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GAACAAGTCAAACTCGATC------AAGAACTTTGAGAATCGATTCTTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CTGGCTAAAAGCTTTAACTTTCACCATCCTTAACCGTCACCGGTTTGATCCGGTTGCCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       617 géridirkentendedégégégésennegénteretégésérennegénekete
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CATCAAATCCGAGTCAGTGAGCCCAGTCTTGCTAGACCAAGCTTTTGATCTGTATTGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 255 ACATITCCAATCCCTCGAAAACGACGTCGTTCTCGCCACCATACCTAAATCCGGTACAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  cricicrica a de controlo de controlo de controlo de controlo de controlo de controlo de controlo de controlo de controlo de controlo de controlo de controlo de controlo de controlo de controlo de controlo de controlo de controlo de controlo de controlo de controlo de controlo de controlo de controlo de controlo de controlo de controlo de controlo de controlo de controlo de controlo de controlo de controlo de controlo de controlo de controlo de controlo de controlo de controlo de controlo de controlo de controlo de controlo de controlo de controlo de controlo de controlo de controlo de controlo de controlo de controlo de controlo de controlo de controlo de controlo de controlo de controlo de controlo de controlo de controlo de controlo de controlo de controlo de controlo de controlo de controlo de controlo de controlo de controlo de controlo de controlo de controlo de controlo de controlo de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de control de
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Accreacesesacreracerereseceaacresassascresesesereer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CGTGTACTTGTGCCGGAACCCGTTTGACACATTCATCTTCGTGGCATTACACCAACAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            677 GGTAAGCAAAGACCACTTCATC-----AGCTGGAGAAAGCCTTCGAGTTGTTCAGCGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GAAGAGACCAGAGAAAGTCTTCTTTTAAGGTACGAGGATCTCAAAGACGACATCGAGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CAACTTGAAGAGGCTTGCAACTTTCTTAGAGCTTCCTTTCACCGAAGAAGAGGAACGAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GGGAGTTGTGAAGGCTATCGCCGAGCTGTAGCTTCGAGAATCTGAAGAAGTTGGAGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CCTATTCCAAGGGTTTTGGTGCCAAGCCAAAGAGATTCAAGCCATCATGTCTTTCCAAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                cerenacedadecrirerdegrarerecedaderdecedadadegreringeadea
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   317 caharrahacadadadacahahahancaradadangandarakandaradahahan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               375 GAGTACCAACCACCTCTTTCACTTCCAACCCTCATGACCTTGTACCTTTCTTCGAGTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    cecceadeschechechraceadaschechreadreschedenschechentereaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CAAGCTTTACGCCAACGGAGATGTTCCCGGATCTCGGGGTCTAGCCAGTCCAAGAACGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CGCAACCCACTTACCGTTCGGTTCCCTAAAGGAAACGATCGAGAAACCCCGGTGTGAAGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        557 gécealcialcatectérricacecrecrecrecesecarecarierececeridécrereces
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Accecercararircecrocaciercecarcacrarcircecraciaciosaaacacar
                                                                                                                                                                                                                                                                                                                                                                  Sequence 1400 BP; 319 A; 409 C; 380 G; 292 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                       17.8%; Score 191.8; DB 7;
ilarity 53.0%; Pred. No. 4.1e-50;
Conservative 0; Mismatches 397;
                        Claim 6; Fig 62; 195pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       469;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       970
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  497
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               555
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              615
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                675
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     730
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              795
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                855
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   915
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  963
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             495
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      315
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              377
                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Best Loca
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ВÞ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ď
ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          \dot{\delta}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      \delta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ठ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CCTTCACAAGTGGAAAGATTGTCAGCCTTAGTGGATGACAAGTTAGGTGGATCTGGTCTC 1062
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      cengaaanegaaaacaaanegaeanearrerreagagagaaaaerreaaggereregenega 1005
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       New ryegrass or fescue nucleic acid encoding a thionin, thaumatin-like, elicitor-responsive or defensin polypeptide, for modifying disease and/or plant resistance, plant defence response and/or protein storage in a plant.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ryegrass; thionin; TH; thaumatin-like protein; TL; defensin; DEF; ER; elicitor-responsive protein; disease resistance; plant defence response; protein storage; pest resistance; genetic marker; gene therapy; antipest; agricultural; LpDEFe; gene; ss.
                                                                                                                                                                                                                                    765
                                                                                                                                                                                                                                                                                           882
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    945
                                                                                                               705
                                                                                                                                                                            822
                                                                                                                                                                                                                                                                                                                                                                                                             942
AGTCTCGAGGCTTTGTTCGAGTCTTTATGTAGCGGAGTTAACTTATGCGGTCCCTTGTGG
                                                                                                                                                                                                                                                                                                                                                                                                          TGTAGCTTCGAGAATCTGAAGAAGTTGGAGGTGAACAAGTCAAACAAGTCGATCAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TITGAGAATCGATTCTTGTTTCGGAAAGGAGAGTGAGTGATTGGGTTAACTATTTGTCA
                                                                                                                     GAAAATGTGTTAGGCTATTGGAGGAGGAAGCTTGGAAGATCCTAAGCATGTGCTTTTCTTG
                                                                                                                                                                                                                                    AGGTACGAGGAGTTGAAGACGGGGGCGTGTGCAAATCAAGAGACTTGCAGAGTTCTTA
                                                                                                                                                                                                                                                                                           GAGCTTCCTTTCACCGAAGAGAAGAACGAAAGGGAGTTGTGAAGGCTATCGCCGAGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  reincreiaagaaaceinagegeninggaganeaacaaaaagaageneeaaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GTAAGTTTCAAGAGTTTTTTCCGTAAAGGGGAAGTTGGTGATTGGAAGAGTTATATGACT
                                                             GAACACATGTTGGGATACTGGAGAGAGAGCTTGAAGAGACCAGAGAAAGTCTTTTTTA
                                                                                                                                                                               AGGTACGAGGATCTCAAAGACGACATCGAGCCAACTTGAAGAGGCTTGCAACTTTCTTA
                                                                                                                                                                                                                                                                                                                                                   GATTITICCATTCACAAAGGAAGAAGATAGTGGAGGTGTAGACAAGAICTTGGAACTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   protein"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ë
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Emmerling
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      "Ryegrass DEFe (LpDEFe)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PTY LTD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EK,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ong
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   perenne defensin e (LpDEFe)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AGRIC VICTORIA SERVICES
AGRESEARCH LTD.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CDNA; 1400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sawbridge TI,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2002WO-AU000539
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           02-MAY-2001; 2001AU-00004735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               153. .833
/*tag= a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /product=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WPI; 2003-201227/19.
P-PSDB; AAE35947.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATATT 1010
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACTTT 1067
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAD54410 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Spangenberg G,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WO200288359-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-MAY-2002;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               17-JUN-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               07-NOV-2002
                                                                                                                                                                                  763
                                                                                                                                                                                                                                          904
                                                                                                                                                                                                                                                                                                     823
                                                                                                                                                                                                                                                                                                                                                                                                                    883
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              826
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      943
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               946
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1063
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (AGRI-) (AGRE-)
                                                                   703
                                                                                                                                                                                                                                                                                                                                                         991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAD54410
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Lolium
```

696

914

729

614 919 674 789

734

849 854

```
28-MAY-2003
                                   354
                                                                             414
                                                                                                                                                                                                                                                                                                                                                                                   831
                                                                                                                       471
                                                                                                                                                                                                          591
                                                                                                                                                                                                                                                    651
                                                                                                                                                                                                                                                                                               711
                                                                                                                                                                                                                                                                                                                                         771
                                                                                                                                                                                                                               244383
                                                                                                                                                                                                                                                                         244323
                                                                                                                                                                                                                                                                                                                                                              244203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       951
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ABZ68951;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ABZ68951
                                                     g
                                ò
                                                                            à
                                                                                             g
                                                                                                                     8
                                                                                                                                        g
                                                                                                                                                               à
                                                                                                                                                                                ద
                                                                                                                                                                                                        ò
                                                                                                                                                                                                                         ద
                                                                                                                                                                                                                                                Š
                                                                                                                                                                                                                                                                    음
                                                                                                                                                                                                                                                                                           ઠે
                                                                                                                                                                                                                                                                                                            B
                                                                                                                                                                                                                                                                                                                                       8 8
                                                                                                                                                                                                                                                                                                                                                                          à
                                                                                                                                                                                                                                                                                                                                                                                                   a
                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                             엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               244730 AGGIGIC-ICAATITICCAGAGGITITICAACGGAAGACACIGATGIAATCATIGCITIC 244672
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             244791
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     244790 Traccaagggcaraaggriffgraaararcaaggargrifggrarrarracaacgccrcca 244731
 1030 CAGGAATGGGACGGTGGGCGATTGGGCCAACCACCTGACCAAGAGATGGCGCACAAGTT 1089
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    The invention comprises the amino acid and coding sequences of isolated fertility restorer proteins. The DNA and protein sequences of the invention are useful for restoring fertility in male sterile plants, such as Brassica napus plants. The DNA and protein sequences of the invention are useful for increasing production of viable pollen in a plant. The DNA and protein sequences are also useful as selection markers to identify transformed plant cells. The present genomic DNA sequence contains coding sequences for fertility restorer proteins of the invention.
                                                                                                                                                                                   male sterile plant; viable pollen production;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       353
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 271990 BP; 89597 A; 47325 C; 46930 G; 88078 T; 0 U; 60 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                        New nuclear fertility restorer genes, useful for restoring fertility icytoplasmic male-sterile plants such as Brassica napus plants, or for increasing production of viable pollen in a plant.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AGCCATCATGTCTTTCCAAAACATTTCCAATCCCTCGAAAACGACGTCGTTCTCGCCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               294 CATACCTAAATCCGGTACAACCTGGCTAAAAGCTTTAACTTTTCACCATCCTTAACCGTCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
17.1%; Score 184.2; DB 9; Length 271990;
Best Local Similarity 53.5%; Pred. No. 1.8e-46;
Matches 485; Conservative 0; Mismatches 403; Indels 19;
                                                                                                                                                                                                                                                                                                                                                                                  Jin
                     GTCAGCCTTAGTGGATGACAAGTTAGGTGGATCTGGTCTCACTTT 1067
                                        GGATGGCATCGTCCAGGAGAGCTCAAAGGTTCTGGCCTCGCCTT 1134
                                                                                                                                                                                                                                                                                                                                                                                 3
                                                                                                                                                                                                                                                                                                                                                                                 Cheung
                                                                                                                                                            Fertility restorer protein genomic DNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                 Landry BS,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Claim 1; SEQ ID NO 87; 191pp; English.
                                                                                                                                                                                                                                                                                                                                                                                 ပဲ
                                                                                    .213/c
ADD25213 standard; DNA; 271990
                                                                                                                                                                                                                                                                                                                                                                                 Dendy
                                                                                                                                                                                                                                                                                                   12-JUL-2001; 2001US-0305026P.
13-JUL-2001; 2001US-0305363P.
30-JUL-2001; 2001US-0308736P.
                                                                                                                                                                                                                                                                                 12-JUL-2002; 2002WO-US022217
                                                                                                                                                                                  protein;
                                                                                                                                                                                 fertility restorer protein
selection marker; ds; gene
                                                                                                                                        (first entry)
                                                                                                                                                                                                                                                                                                                                              UNIV MCGILL.
DNA LANDMARKS INC
                                                                                                                                                                                                                                                                                                                                                                                z
                                                                                                                                                                                                                                                                                                                                                                                Formanova
                                                                                                                                                                                                                                                                                                                                                                                                   WPI; 2003-221734/21
                                                                                                                                                                                                                                      WO2003006622-A2
                                                                                                                                                                                                                Unidentified
                                                                                                                                        15-JAN-2004
                                                                                                                                                                                                                                                           23-JAN-2003.
                                                                                                                                                                                                                                                                                                                                                                                ,
9
                    1023
                                          1090
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      114
                                                                                                                   ADD25213
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            234
                                                                                                                                                                                                                                                                                                                                               (UYMC-)
(DNAL-)
                                                                                                                                                                                                                                                                                                                                                                                Brown
                                                                        엄
                    à
                                      q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        \dot{\delta}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
```

```
244671 GTACCCCAAATCAGGCACTACTTGGCTCAAGGCCCTCACACGTCGCTCTGTGAGAGATC 244612
                                                                                                                                                              244564
                                                                                                                                                                                                                                                                                    244504
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     244384
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  244324
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         244264
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   244204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   244084
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                244083 GCGTAATCTGAGCAGTTTGGAGCTAACAA---AACAGGGACAATAAACAATGTGGAGCA 244027
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             244026 CAAGTTTTTTTTCCGTAAAGGAGAAGTCGGTGACTCGAAAATTATCTTACGTCTGAAAT 243967
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TCGATTCTTGTTTCGGAAAAGGAGAAGTGAGTGATTGGGTTAACTATTTGTCACCTTCACA 1010
                                                                                                                                                                                                                                                                                                                                                   530
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              710
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    770
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Location/Qualifiers
1. .10.1
4. tag= a
/*tag= a
/product= "desulfoglucosinolate sulfotransferase AtST5a"
                                                                                                                                                                                                                                                          244563 CATTATACCATTCTTGGAGATCGATGTGTACCACGAAAGCTCAAGTCCTAACCTAGCCAA
                                                                                                                                                       ------Arcarccrararcarahcered
                                                                                                                                                                                                                                                                                                                                                                                                    244503 GTTCTCAGCACCTCCGAGGCTGTTCTCGACTCATGCCACTGCACACGATCCACGAAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  244443 ACTCAAGCACTCTCCTTGCAAGATTGTGTACGTGCAGGAACGTGAAGGACACATGATGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  244263 CTTGAGTTACTGGAGGAAGCTTGGAAGACCCAAAGCATGTCCTTTTCATGAGGTATGA
                                                                                            CCGGTTTGATCCGGTTGCCTCGAGTACCAACCACCCTCTTTTCACTTCCAACCCTCATGA
                                                                                                                                                                                                                      CCTTGTACCTTTCTTCGAGTACAAGCTTTACGCCAACGGAGATGTTCCCGGATCT - - - CTC
                                                                                                                                                                                                                                                                                                                                            GGGTCTAGCCAGTCCAAGAACGTTCGCAACCCACTTACCGTTCGGTTCCCTAAAGGAAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   531 GATCGAGAAACCCGGTGTGAAGGTCGTGTACTTGTGCCGGAACCCGTTTGACACATTCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CTCTTCGTGGCATTACACCAACAACATCAAATCCGAGTCAGTGAGCCCAGTCTTGCTAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CCAAGCTTTTGATCTGTATTGCCGGGGAGTGATCGGGTTTTGGCCCGTTTTGGGAACACAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GrotargittaaccadricideGarddaaccaactartricGaccritirigGaardarcr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GTTGGGATACTGGAGAGAGGTTGAAGAGACCAGAAAAGTCTTTTTAAGGTACGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GGATCTCAAAGACGACATCGAGACCAACTTGAAGAGGCTTGCAACTTTCTTAGAGCTTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TITCACCGAAGAAGAACGAAAGGGAGIIGIGAAGGCIAICGCCGAGCIGIGIAGCII
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             891 CGAGAATCTGAAGAAGTTGGAGGTGAACAAGTCAAACAAGTCGATCAAGAACTTTGAGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Plant, desulfoglucosinolate sulfotransferase, AtST5a, AtST5b, AtST5c, glucosinolate, transgenic plant, gene, ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Nucleotide sequence of desulfoglucosinolate sulfotransferase AtST5a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ABZ68951 standard; DNA; 1017 BP.
                                                                                                                                                          244611 AAAGAACCACTCTTCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       243966 GGAGAAA 243960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1011 AGTGGAA 1017
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Arabidopsis thaliana.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WO2003010318-A2
```

```
4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         550
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                610
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        670
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      595
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AGTICCAAGAGAIGTIGGATICTCTICCTAAGGAGAGAGGATGGAGAACTCGTIA---CC 190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TITACCIATICCAAGGGITTIGGIGCCAAGCCAAAGAGAITCAAGCCAICAIGICTIICC 250
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  131 raacccaaraceredaceredareedaabaarererecresaagererrrreeceera 190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              akskecktrircskasckasckastraktricerererastracekakakaeses
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     430
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               490
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            415
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    475
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         307
                                                                                                                                                                                                                                                                                   The present sequence encodes a plant desulfoglucosinolate sulforransferase, designated AtST5a. The specification also describe shafsT5b and AtST5b are constitutively expressed in all parts of the plants, while AtST5c does not seem to be expressed in the early stage of development. These enzymes are involved in glucosinolate synthesis in plants. The desulfoglucosinolate sulfotransferase polymucleotides are useful for modulating glucosinolate biosynthesis in the transgenic plants.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AGGICGIGIACITGIGCCGGAACCCGTTTGACACATTCATCTTCGTGGCATTACACCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             311 CAACCTGGCTAAAAGCTTTAACTTTCACCATCCTTAACCGTCACCGGTTTGATCCGGTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         caactricecticaaaccactracctracecaatcetcaatcetrecetraceaceace---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CCTCGAGTACCAACCACCCTCTTTTCACTTCCAACCCTCATGACCTTGTACCTTTCTTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -----CGGCAAACCCACTCCTCAAACGAAACCCTCACGAGTTTGTCCCTTACGTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AGTACAAGCTTTACGCCAACGGAGATGTTCCCGATCTCCGGGTCTAGCCAGTCCAAGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          359 AGATCGACTTCGCGTTTTACCCCACCGTTGATCTTCTTCAAGACAGAAGAACCC---AC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACAACATCAAATCCGAGTCAGTGAGCCCAGTCTTGCTAGACCAAGCTTTTGATCTGTATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CGTTCGCAACCCACTTACCGTTCCGTAAAGGAAACGATCGAGAAACCGGTGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TTTTCTCTACTCATATCCCAAACGGGTTATTACCCGATTCGATTGTGAACTCTGGTTGTA
                                                                                                                                                                                                  Novel isolated or purified polypeptide having biological activity of desulfoglucosinolate sulfotransferases, useful as enzymes involved in glucosinolate biosynthesis in transgenic plants.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AGTATCAAGATTTCATCGCTACACTTCCAAAGAGCAAAGAGCTGGAGACCAGATGAGATCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAAAACATTTCCAATCCCTCGAAAACGACGTCGTTCTCGCCACCATACCTAAATCCGGTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 1017;
                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 1017 BP; 296 A; 205 C; 240 G; 276 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 174.4; DB 7;
Pred. No. 1.3e-44;
0; Mismatches 416;
                                                                                                                                                                                                                                                               Claim 9; Page 54-55; 68pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                         16.2%;
52.6%;
                                                                    24-JUL-2001; 2001US-0307141P
                                          24-JUL-2002; 2002WO-CA001144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                 (UYCO-) UNIV CONCORDIA
                                                                                                                                                          WPI; 2003-248082/24.
P-PSDB; ABP72962.
                                                                                                                              Spertini
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       al Similarity
494; Conserv
            06-FEB-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 476
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           536
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      551
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       671
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                71
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        251
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              251
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   431
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           491
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         416
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               611
                                                                                                                                Varin L,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
```

```
896 ATTTTAGGAAAGGAAAAGGTTGGAGATTGGGCTAATTATTGACTCCTGAGATGGCTGCTC 955
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           895
                                                                                                                                                                                                                                                                                                                                                                              850
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      775
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            910
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             835
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            958
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            959 IGITICGGAAAAGGAGAAGIGAGIGATIGGGITAACIAITIGICACCIICACAAGIGGAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             recerritarica a carrecerca e crica con recerra recarita e caracte a caracte de caracte de caracte de caracte de caracte de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de caracter de cara
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GAAAGGGAGTTGTGAAGGCTATCGCCGAGCTGTGTAGCTTCGAGAATCTGAAGAAGTTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GTAAAGGTTTATCTGTGTATGGTCCTTATCTGGATCATGTTTTGGGTTATTGGAAAGCTT
                                                                                                                              731 GCTTGAAGAGACCAGAGAAAGTCTTCTTTTAAGGTACGAGGATCTCAAAGACGACATCG
                                                                                                                                                                                                                                         ACCAAGAGAATCCAGATAGGATTTTGTTCTTAGGTACGAGACCATGAGGGCCAATCCTT
                                                                                                                                                                                                                                                                                                                                                                              791 AGACCAACTTGAAGAGGCTTGCAACTTTCTTAGAGCTTCCTTTCACCGAAGAAGAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             776 AGAATGGTGTTGCTGAGAAGTGGTGAAGCTTTGTAGCTTTGAGACGTTGAAGAATCTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             836 AAGCTAACAAAGGTGATAAAGAAAGAGAGGATCGTCCTGCTGTTTATGCGAATAGCGCGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1019 GATTGTCAGCCTTAGTGGATGACAAGTTAGGTGGATCTGG 1058
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ĠTAŤTGATĠĠĊŤŤĂĠŤĠĠĠĠĠĠĠĠĠĠŦŦŢĊŖĠĠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       911
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                851
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                  ò
                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                            ઠે
```

Search completed: August 17, 2004, 02:59:48 Job time : 498 secs AV442770 AV442770 AV520946 AV520946 CB260353 77-E01117 AV441110 AV441110 CD837475 BN45.052G CD834047 BN45.040G

ĕ

```
AV520947
T432254
AV442113
AV442113
AV442113
AV442113
AV442113
AV442113
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV800105
AV80
                  AV442770
AV520946
CB260353
AV441110
CD837475
CD834047
                                                                                                                                      AV442439
CD833738
CD822905
                                                                                                                                                                                             CC952179
H76376
CB257253
AV810198
AV41090
    TIGR
                                                                                                                                                                                                                                                          453.6
435.6
421.4
420.2
367.2
365.8
365.8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        238
230.2
230.2
228.8
227.8
221.4
2221.2
220.4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 1
BH733391
LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                REFERENCE
AUTHORS
TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACCESSION
  August 17, 2004, 02:43:04; Search time 3226 Seconds (without alignments) 9969.488 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                          1 atggctacctcaagcatgaa......gtctcactttcaggttgagc 1077
                                                                                                                                                                                                                                                                                                                                                                                                   55026578
                     GenCore version 5.1.6
Copyright (c) 1993 - 2004 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                         27513289 segs, 14931090276 residues
                                                                                                                                                                                                                                                                                                                                                                                               Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                            nucleic - nucleic search, using sw model
                                                                                                                                                                                                                                                                                              IDENTITY NUC
Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       em_gss_phg:*
em_gss_vrl:*
gb_gssl:*
gb_gss2:*
                                                                                                                                                                                                                                                                                                                                                                                                                                     Minimum DB seq length: 0
Maximum DB seq length: 200000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        em_gss_hum:*
em_gss_inv:*
em_gss_pln:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   em_gss_vrt:*
em_gss_fun:*
em_gss_mam:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   pro:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 em_esthum: *
em_estin: *
em_estin: *
em_estin: *
em_estpl: *
em_estpl: *
em_btc: *
gb_estl: *
gb_est1: *
gb_est3: *
gb_est4: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfin: *
em_estfi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          em_gss_mus:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query
Match Length DB
                                                                                                                                                                                                              US-10-019-931-1
1077
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  em_estba:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     em_gss_ne
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EST: *
                                                                                                                                                                                                                Title:
Perfect score:
                                                                                                                                                                                                                                                                                              Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Database :
                                                                                                                                                                                                                                                          Sequence:
                                                                                                                                                                                                                                                                                                                                                         Searched:
                                                                                                                                    Run on:
```

AV42439 AV442439 CD833738 BN45.001G CD82295 BN55.047A CC952179 BOIGS48TF H76376 18081 Lambd AV41019 BV441090 AV41090 AV441090 AV42121 AV42109 AV42121 AV42103 T13626 1791 Lambda AV42131349 SALK 0090 H13349 SALK 0090 H13349 SALK 0090 BH580029 BOCIB46TF BU831310 T020A9 AV800105 AV800105 N37700 18927 Lambd BH580029 BOCIB46TF BU831310 T020A9 CA799562 SALK 0090 CA799562 SALK 0090 CA799562 SALK 0090 CA799663 AV800105 BU831310 T020A9 CA799663 AV800107 CA799663 AV800107 CA799664 AV800107 CA799664 AV800107 CA799664 AV800107 CA799667 AV800107 CA799667 AV800107 CA799667 AV800107 CA799667 AV800107 CA799667 AV800107 CA799667 AV800107 CA799667 AV800107 CA799667 AV800107 CA799667 AV800107 CA799667 AV800107 CA92130 AV822130 CA9216667 AV822130 CA9216667 AV800108

BOWIUGOTR BO_2_3 KB Brassica oleracea genomic clone BOMIU60, BH733391 Brassica oleracea
Brassica oleracea
Brassica oleracea
Brassica oleracea
Bukaryota, Viridiplantae, Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnollophyta; eudioctyledons; core eudicots;
rosids; eurosids II; Brassicales; Brassicaceae; Brassica.
Town,C.D., Van Aken,S., Utterback,T., Koo,H. and Fraser,C.M.
Whole genome shotgun sequencing of Brassica oleracea
Other GSSs: BOMIU60TF 9712 Medical Center Drive, Rockville, MD 20850, USA. Tel: 301-838-3523 Fax: 301-838-0208 Email: cdtown@tigr.org DNA is from a doubled haploid provided by Tom Osborn. Seq primer: TR Class: sheared ends. BH733391.1 GI:18838786

BH73331 BOMIUGOTR BZ062934 11c02b11. AU238005 AU238005 AV827990 AV827990

BH733391 BZ062934 AU238005 AV827990

9 6 6 8 8

811 757 671 574

50.3 49.2 45.9

541.4 530 494.6 486

υ

Score

Result No No

Description

ALIGNMENTS

Medicine

```
Brassica oleracea
Bukaryota, Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Bukaryota, Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots;
rosids; eurosids II; Brassicales; Brassicaceae; Brassica.
1 (bases 1 to 757)
Delehaunty, K., Fewell, G., Fulton, L., McCombie, W.R., Miner, T.,
Nash, W., Rabinowicz, P.D. and Wilson, R.K.
Unpublished (2002)
Contact: Richard K. Wilson
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         organism="Brassica oleracea"
                                                                                                                                                                                                                                                                    Genome Sequencing Center
Mashington University School of Mec
Email: submissionsewatson.wustl.ed
Plate: 11002 row: b column: 11
Seq primer: -21UPpOT forward
Class: shotgun
High quality sequence start: 52
High quality sequence stop: 551.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               110
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            577
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             517 (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           410
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                230
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             290
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            470
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           406
     SOURCE
ORGANISM
                                                                                                                                                                                                TITLE
JOURNAL
COMMENT
                                                                                                                            REFERENCE
                                                                                                                                                    AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         \stackrel{>}{\circ}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               954 ATTCTTGTTTCGGAAAGGAGAAGTGAGTGATTGGGTTAACTATTTGTCACCTTCACAAGT 1013
                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 199
                                                                                                                                                                                                                                                                                                                                                                                                      413
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      473
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    533
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       593
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  653
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                713
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                773
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 833
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 893
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               953
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1014 GGAAAGATTGTCAGCCTTAGTGGATGACAAGTTAGGTGGATCTGGTCTCACTTTCAGGT 1072
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                cerceracerricardascaracerria de a a a construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construcción de construc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CICCTGCCATTACATCAACATAAAGTCCGAAGCAGTGAGTCCCGTCTCGTTAGAAGA 301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               421
                                                                                                                                                                                                                                                                                                                                                                                                                                                  61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CACGGAAGAAGAACAAAAAGGTGTGGTGCATTCAATCTCGGATCTGTGCAGCTTCGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GAATCTGAAGAAGTTGGAGGTGAACAAGTCAAACAAGTCGATCAAGAACTTTGAGAATCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CCGGTTTGATCCGGTTTCTTCACCACCGACCACCACCACTCCTCACATCAAACCCTCATGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TTTAGCCAGTCCGAGACATTCGCAACCCACGTCCCTTTCGGTTCCCTCAAGGACTCCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CGAGAAACCCGGTGTGAAGGTCGTGTGTGCCGGAACCCGTTTGACACATTCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CGAGGAACCAGGCGTGAAGGTGGTGGTGTTTTGCCGAACCCGTTCGACACATTCATCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          rcicaaagacgacarcgagacgaacrigaagaggcrigcaacrircriagagcriccrir
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CCTTGTACCTTTCTTCGAGTACAAGCTTTACGCCAACGGAGATGTTCCCCGATCTCGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TCTAGCCAGTCCAAGAACGTTCGCAACCCACTTACCGTTCGGTTCCCTAAAGGAAACGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TTCGTGGCATTACACCAACAACAACAATCCGAGTCAGTGAGCCCAGTCTTGCTAGACCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AGCTTTTGATCTGTATTGCCGGGGAGTGATCGGGTTTTGGCCCCGTTTTGGGAACACATGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GGGATACTGGAGAGAGCTTGAAGAGACCAGAGAAAGTCTTCTTTTAAGGTACGAGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CACCGAAGAAGAAGGAACGAAAGGGAGTTGTGAAGGCTATCGCCGAGCTGTGTAGCTTCGA
                                                                                                                                                                                                                                                                                                                                                                                                      CCGGTTTGATCCGGTTGCCTCGAGTACCAACCACCCTCTTTTCACTTCCAACCCTCATGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BstXI; 2-3 kb sheared
31 using BstXI linkers"
                                                                                                                                                                                                                                                                                                   50.3%; Score 541.4; DB 28; Length 811; llarity 84.6%; Pred. No. 6.1e-145; Conservative 0; Mismatches 111; Indels 0;
                                                                           /mol_type="genomic DNA"
/strain="701000DH3"
/db.ref="taxon:3712"
/clone="BOMIUG0"
/note="Vector: _PHOS1; Site 1: BstX
genomic DNA inserted into PHOS1 us
                                                           /organism="Brassica oleracea"
          Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                Best Local Similarity
Matches 608; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                           354
                                                                                                                                                                                                                                                                                                                                                                                                                                                        ~
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         414
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         474
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       534
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        594
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     654
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   714
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      774
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     422
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    834
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    894
                                                                                                                                                                                                                                                                                                           Query Match
                                       source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 2
BZ062934/c
             FEATURES
                                                                                                                                                                                                                                                         ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            \delta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ઠે
```

```
/mol_trym="genomic DNA"
//mol_trym="genomic DNA"
/do xref="caxon:3712"
/clone_lib="baxon:3712"
/note="vector: poTw13; Whole genome shotgun library from flowering buds. DNA was purified from a crude nuclear prep using Brasica oleracea TO1000DH3 buds provided by Thosmas Osborn at the University of Wisconsin. Genomic DNA was provided by Pablo Rabinowicz (CSHL) and the Sequencing Center."
                                                                                                                                                                                                                                                                                    -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    347
                                                                                                                                                                                                                                                                                                                           169
                                                                                                                                                                                                                                                                                                                                                                   698
                                                                                                                                                                                                                                                                                                                                                                                                        229
                                                                                                                                                                                                                                                                                                                                                                                                                                                638
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         289
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           578
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        349
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             518
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   409
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   469
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       407
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      287
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 227
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CCAGTCTAGCTAGTCCAAGAACATTCGCAACACACGTCCCTTTCGGTTCTCTCAAGGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CGGGTCTAGCCAGTCCAAGAACGTTCGCAACCCACTTACCGTTCGGTTCCCTAAAGGAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TCTCTTCGTGGCATTACACCAACAACATCAAATCCGAGTCAGTGAGCCCCAGTCTTGCTAG
                                                                                                                                                                                                                                                                                                                           AAGAAGATGAAGGGCTAAGCTGCGAGTTCCAAGAGATGTTGGATTCTCTTCCTAAGGAGA
                                                                                                                                                                                                                                                                                                                                                                 757 Aagaagaagaagagcraaagcracgagricrragagargriggacrcriccraaggaga
                                                                                                                                                                                                                                                                                                                                                                                                          170 GAGGATGGAGAACTCGTTACCTTTACCTATTCCAAGGGTTTTGGTGCCAAGCCAAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TTCAAGCCATCATGTCTTTCCAAAACATTTCCAATCCCTCGAAAACGACGTCGTTCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CCACCATACCTAAATCCGGTACAACCTGGCTAAAAGCTTTAACTTTCACCATCCTTAAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CTACCATACCAAAATCCGGTACAACATGGTTAAAAGCTCTAACATTTACCCTCCTTAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GTCACCGGTTTGATCCGGTTGCCTCGAGTACCAACCACCCTCTTTTCACTTCCAACCCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            dacacceditricatrocedr-----rrorgaccaccricrocrocacarcaaccric
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATGACCTTGTACCTTCGAGTACAAGCTTTACGCCAACGGAGATGTTCCCCGATCTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CGATCGAGAAACCCGGTGTGAAGGTCGTGTACTTGTGCCGGAACCCGTTTGACACATTCA
                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                      .
و
                                                                                                                                                                                                                                       Query Match
Best Local Similarity 84.3%; Pred. No. 1.2e-141;
Matches 612; Conservative 0; Mismatches 105; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      530
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          346
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   590
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       286
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             .₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     a
```

757 bp DNA linear GSS 10-0CT-2002 B.oleracea002 Brassica oleracea genomic, genomic survey

BZ062934 11c02b11.b1 B.oleracea002 sequence. BZ062934 BZ062934.1 GI:23673253. GSS.

LOCUS

ACCESSION VERSION KEYWORDS

105 130 153 190 213 250 273 310 310	97 GCCTCGAGTACCACCACCTTTTCACTTCCAACCTCATGACCTTGTACCTTTC Db		RESULT 4 AV827990 AV827990 AV827990 BFINITION AV827990 RAFL9 Arabidopsis thaliana cDNA clone RAFL09-22-M04 5', MRNA sequence. ACCESSION AV827990.1 GI:19870050 KEYWORDS ATABIdopsis thaliana (thale cress) SOURCE Arabidopsis thaliana (thale cress) CRGANISM Arabidopsis thaliana CRGANISM Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Spermacophyta; apagnoliophyta, eudicoyledons; core endicots, roasids: eurosids II: Brassicales: Arabidopsis.	REFERENCE 1 (bases 1 to 574) AUTHORS Seki,M., Narusaka,M., Ishida,J., Kamiya,A., Satou,M., Nakajima,M., Oono,Y., Sakurai,T., Carninci,P., Kawai,J., Itoh,M., Ishii,Y., Arakawa,T., Shibata,K., Shinagawa,A., Muramatsu,M., Hayashizaki,Y. and Shinozaki,K. TITLE Large scale analysis of Arabidopsis full-length cDNA (2002b) JOURNAL Unpublished (2002) COMMENT Contact: Motoaki Seki Plant Functional Genomics Research Group RIKEN Genomic Sciences Center:	1-1. NOYAGNI, 'SEMBLA', IDATAKI 305-00/4', Japan Tel: 81-298-36-4359 Fax: 81-298-36-9060 Email: meskipartc.riken.go.jp An Arabidopsis full-length cDNA library was constructed essentially as reported previously (Seki et al., 1998).cDNA cleaved with BamHI and Khoi was ligated to modified Lambda FLC-1 vector (Carninci et al., submitted for publication) digested with BamHI and SalI. This clone is in a modified pBluescript vector. Please visit our web site (http://www.gsc.riken.go.jp/e/plant/index_e.html) for further details.
650 ACCAAGCTTTTGATCTGTATTGCCGGGAGTGATCGGGTTTGGCCCGTTTTGGGAACACA 709 226 AAGAAGGGTTTGATCTGTATTGCCGGGAGTGATCGGGTTTGGGAACACA 167 2270 TGTTGGCATACTCGAGAGAGGAGGAGAAGTCTTTTTTAAGGTACG 769 106 TGTTGGCATACTCGAGAGAGCTTGAAGAGCAAGTCTTTTTTAAGGTACG 769 106 TGCTGGGGTACTCGAGAGAGCTTGAAGAGCAAGTCTTGTTTTTAAGGTACG 107 770 AGGATCTCAAAGACGAACCAACTTGAAGAGGAAGTCTTGTTAAAGTACG 107 106 AAGATCTCAAAGACGACATCGAGACCAACTTGAAGAGCTTGCAACTTTCTTAGAGCTTC 829 116	AU238005 AU238005 AU238005 AU238005 AU238005 AU238005 AU238005.1 AU238005.1 GI:19877174 Arabidopsis thaliana (thale cress) Arabidopsis thaliana (thale cress) Arabidopsis thaliana Bukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Fordaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Fordaryota; Viridiplantae; Streptophyta; Arabidons; Corte eudicots; Fordards: Arabidonsia; Arabidonsia;	1 (Bases 1 to 671) Seki, M., Narusaka, M., Ishida, J., Kamiya, A., Satou, M., Nakajima, M., Akiyama, K., Enju, A., Oono, Y., Sakurai, T., Carninci, P., Kawai, J., Itoh, M., Ishii, Y., Arakawa, T., Shibara, K., Shinagawa, A., Muramatsu, M., Hayashizaki, Y. and Shinozaki, K. Unpublished (2002) Contact: Motoaki Seki	Plant Functional Genomics Research Group RYENG Genomics Coalences Center 3-1-1 Koyadai, Tsukuba, Ibaraki 305-0074, Japan Tel: 81-298-36-4359 Tel: 81-298-36-9060 Email: mseki@rtc.riken.go.jp An Arabidopsis full-length cDNA library was constructed essentially as reported previously (Seki et al., 1998).cDNA cleaved with BamHI and Xhol was ligated to modified Lambda FLC-1 vector (Carninci et al., submitted for publication) digested with BamHI and Sall: This clone is in a modified pBluescript vector. Please visit our web site (http://www.gsc.riken.go.jp/e/plant/index _e.html) for further	RES Location/Qualifiers 1. 671 Organism="Arabidopsis thaliana" Mol type="mRNA" Ab xref="texon:3702" Alab host="BAFL16-75-F02" Alab host="BAFL16" Clone lib="RAFL16" Anote="Site_1: BamH1; Site_2: Sal1; dark-grown" N	Ouery Match Best Local Similarity 88.4%; Pred: No. 1.9e-131; Matches 565; Conservative 0; Mismatches 59; Indels 15; Gaps 2; 10 TCAAGCATGAAGAGCATTCCAATGGCGATCCCAAGTTTCTCCATGTGTCACAAGCTCGG 69

us-10-019-931-1.rst

```
/db_xref="water:abs_128_"
/db_xref="water:abs_128_"
/clone="MPIZp770A2220"
/tissue_type="adult plant," mixed stresses"
/dev stage="adult plant," mixed stresses"
/lab_bost="E. coli TOP10"
/clone=lb="whriz-ADIS-013"
/note="Wetcor: pSORT1; Site 1: Sall; Site 2: NotI; RNA from total, adult, 6 weeks old Arabidopsis_thaliana
/accession Nd-1) plants, grown in the greenhouse under
long day conditions in soil treated for 24 hours with
different stresses, (1) at 4 Grad C in the dark, (2), at
37 Grad C in the dark, (3) lying in the lab after removing
from soil, (4) in the greenhouse after wounding with a
foreceps, (5) in the lab watering with a 150 mM NaCl
solution, (6) at 26 Grad C in the light/UV, equal
quantities of stressed plant material were pooled; library
was made at the Max-lanck-Institute for Plant Breeding
Research, Cologne, Germany; cloning sites Sall-Not!,
primer sites and orientation:
T7-Sall-CCAGGCG-Sprime-CDNA-polyA-CC-Notl-SP6; Note:
Sequencing granted in the context of the GABI Arabidopsis
Verbund I: Genetic Diversity, 'Establishment of
methods for genome-wide mutation detection' PI: Bernd
Weisshaar Sequence submission managed by RZPD/GABI-Primary
database: http://dabi.rzpd.de. This clone is available
from RZPD; contact RZPD (clone@rzpd.de) for further
mapping in Arabidopsis thaliana
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            635
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  695
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        755
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 815
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              576 GITTGACACATTCATCTTCGTGGCATTACACCAACAACATCAAATCCGAGTCAGTGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 GITIGACACATICATCICCTCGTGGCATTACACCAACAACAACAATCCAAATCCGAGTCAGTGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CTTTTTAAGGTACGAGCATCTCAAAGACGACATCGAGACCAACTTGAAGAGGCTTGCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     636 CCCAGTCTTGCTAGACCAAGCTTTTGATCTGTATTGCCGGGGAGTGATCGGGTTTTGGCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61 cccasicrisciasaccaasciririsarcistarisccssssasisarcsssirisscc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GTTTTGGGAACACATGTTGGGATACTGGAGAGAGAGCTTGAAGAGACCAGAGAAAGTCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TITCTTAGAGCTTCCTTTCACCGAAGAAGAAGAACGAAAGGAAATGTGAAAGGCTATCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 635;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                        Breeding Research
beln, Germany
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 45.1%; Score 486; DB 14;
98.0%; Pred. No. 5.5e-129;
cive 0; Mismatches 10;
                                                                                                                                                                                                                                                                                                                                            organism="Arabidopsis thaliana"
                                                                                                                                                                                                                                                                                                                                                                 /mol_type="mRNA"
/cultivar="Niederzens-1 (Nd-1)"
                                                                                                                                                                                                    Email: weisshaa@mpiz-koeln.mpg.de
Insert Length: 635 'Std Error: 0.00
Plate: 2 row: A column: 22
Seg primer: T7R; CTAATAGGACTCACTATAGGGA.
    single-nucleotide polymorphisms for
Genome Res. 13 (6), 1250-1257 (2003)
                                                                                                           ADIS DNA CORE facility at MPIZ
Max-Planck-Institute for Plant Breed
Carl-von-Linne Weg 10, 50829 Koeln,
Fax: 00492215062851
                                                                                                                                                                                                                                                                                                                                                                                                             /db_xref="GABI:589239"
                                                                                                                                                                                                                                                                                                 Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      information."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Similarity
                                                  22683290
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Simil
Matches 492; C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              816
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        756
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                969
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 181
                          JOURNAL
MEDLINE
PUBMED
                                                                                                                                                                                                                                                                                                      FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                        24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CB260303 635 bp mRNA linear EST 06-NOV-2003 81-E9537-013-002-A22-T7R MPIZ-ADIS-013 Arabidopsis thaliana cDNA clone MPIZp770A222Q 5-FRIME, mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                              5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          422
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Arabidopsis thaliana (thale cress)
Arabidopsis thaliana
Bukaryota, Viridiplantae, Streptophyta, Embryophyta, Tracheophyta,
Spermatophyta, Magnoliophyta, eudicotyledons; core eudicots;
rosids; eurosids II; Brassicales; Brassicaceae; Arabidopsis.
1 (bases 1 to 635)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACTCGTTACCTTTACCTATTCCAAGGGTTTTGGTGCCAAGCCAAAGAGATTCAAGCCATC 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACTCGTTACCTTTACCTATTCCAAGGGTTTTTGGTGCCAAGCCAAAGAGATTCAAGCCATC 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61 AAGCTCGAGCTCCTTAAAGAAGGCAAAACTCGCGACGTCCCGAAAGCCGGAAGATGAA 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAGCTCGAGCTCCTTAAAGAAGACAAAACTCGCGACGTCCCGAAAGCCGAAGAAGATGAA 182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      241 ATGTCTTTCCAAAAACATTTCCAATCCCTCGAAAACGACGTCGTTCTCGCCACCATACCT 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CCTTTCTTCGAGTACAAGCTTTACGCCAA-CGGAGATGTTCCCGGATCTCTCGGG-TCTAG 478
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           542
                                                                                                                                                                                                                                                                                                                                                                                                                                         9
                                                                       /mol_type="mRNA"
/db_xref="taxon:3702"
/clone="RAFL09-22-M04"
/dev_stage="plants at various developmental stages from germination to mature seeds"
/lab_host="DH10B"
                                                                                                                                                                                                                                                        10,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 (bases 1 to 635)
Schmid, N.J., Soerensen, T.R., Stracke, R., Torjek, O., Altmann, T.,
Mitchell-Olds, T. and Weisshaar, B.
Large-scale identification and analysis of genome-wide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       303 ATGTCTTTCCAAAACATTTCCAATCCCTGGAAAACGACGTGGTTCTCGCCACCATACCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          363 AAATCCGGTACAACCTGGCTAAAAGCTTTAACTTTCACCATCCTTAACCGTCACCGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GATCCGGTTGCCTCGAGTACCAACCACCTCTTTTCACTTCCAACCTCATGACCTTGTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CCTTTCTTCGAGTACAAGCTTTACGCCAACCGGAGATGTTCCCGATCTCTCNGGTTCTAG
                                                                                                                                                                                                                                                                                                                                                                                                                                         1 ATGCCTACCTCAAGCATGAAGAGCATTCCAATGGCGATCCCCAAGTTTCTCCATGTGTCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GGGCTAAGCTGCGAGTTCCAAGAGATGTTGGATTCTCTTCCTAAGGAGAGAGGATGGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               301 AAATCCGGTACAACCTGGCTAAAAGCTTTAACTTTCACCATCCTTAACCGTCACCGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GATCCGGTTGCCTCGAGTACCAACCACCTCTTTTCACTTCCAACCCTCATGACCTTGTA
                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                        'n
                                                                                                                                                                                                                                       ,
2
                                                                                                                                                                                                                                                                                                                                                                                              2;
                                                                                                                                                                                     /lab_host="DH10B"
/clone_lib="RAFIS"
/note="Site_l: BamH1; Site_2: Sal1; subjected (dehydration (1, 2, 5, 10, 24 hr) and cold (1, int) treatments"
                                                                                                                                                                                                                                                                                                                                          Score 486; DB 9; Length 574;
Pred. No. 5.2e-129;
0; Mismatches 2; Indels
                                                    organism="Arabidopsis thaliana"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CCAGTCCAAGAACGTTCGCAACCCACTTACCG 510
         Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CB260303.1 GI:32885076
                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity 99.2%;
Matches 508; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  423
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      479
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   543
                                   source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACCESSION
VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 REFERENCE AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 5
CB260303
              FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TITLE
                                                                                                                                                                                                                                                                                                          DRIGIN
```

원 ò g ò g ρp ò 원 à g

à

셤 à 셤

ò

a

à

240 279 300 339 399 420 459 480 519

g

8 g

g ò g ठे

```
AV520946 Arabidopsis thaliana aboveground organs two to six-week old Arabidopsis thaliana cDNA clone AP238a12F 3', mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Arabidopsis thaliana
Eukaryota; Viridiplantee; Streptophyta; Embryophyta; Tracheophyta;
Eukaryota; Viridiplantee; Streptophyta; Embryophyta; Tracheophyta;
Fosida; eurosida II; Brassicales; Brassicaceae; Arabidopsis.
1 (bases I to 641)
A samizu, E., Nakamura Y., Sato, S. and Tabata, S.
A large scale analysis of cDNA in Arabidopsis thaliana: Generation of I2,028 non-redundant expressed sequence tags from normalized and size-selected cDNA libraries
DNA Res. 7 (3), 175-180 (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /tissue_type="aboveground organs"
/dev_stage="two to six-week old"
/clone_lib="Arabidopsis thaliana aboveground organs two to six-week old"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               The First Laboratory for Plant Gene Research
Kazusa DNA Research Institute
Yana 1532-3, Kisarazu, Chiba 292-0812, Japan
Email: asamizu@kazusa.or.jp, URL:http://www.kazusa.or.jp/en/plant/.
Location/Qualifiers
                                                                                                                                                                                                360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       672
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   //note="Vector: pBluescriptII SK-; Site_1: EcoRI; Site_2:
kho1"
                                                                                                                                   280 ATGICTITICGAAAAACAITICCAATCCCICGAAAACGACGICGITCITGCCACCAITACCI
                                                   220 ACTCGTTACCTTTACCTATTCCAAGGGTTTTGGTGCCAAGCCAAAGAGATTCAAGCCATC
                                                                                                                                                                                                                              340 AAATCCGGTACAACCTGGCTAAAAGCTTTAACTTTCACCATCCTTAACCGTCACCGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                       460 CCTTTCTTCGAGTACAAGCTTTACGCCAACGGAGATGTTCCCGATCTCTCGGGTCTAGCC
                                                                                                           241 ATGTCTTTCCAAAAACATTTCCAATCCCTCGAAAACGACGTCGTTCTCGCCACCATACCT
                                                                                                                                                                                                301 AAATCCGGTACAACCTGGCTAAAAGCTTTAACTTTCACCATCCTTAACCGTCACGGTTT
                                                                                                                                                                                                                                                                                      GATCCGGTTGCCTCGAGTACCAACCACCTCTTTTCACTTCCAACCCTCATGACCTTGTA
                                                                                                                                                                                                                                                                                                                              400 GATCCGGTTGCCTCGAGTACCAACCACCTTTTCACTTCCAACCCTCATGACATGTA
                                                                                                                                                                                                                                                                                                                                                                             CCTTTCTTCGAGTACAAGCTTTACGCCAACGGAGATGTTCCCCGATCTCTCGGGTCTAGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       613 AACATCAAATCCGAGTCAGTGAGCCCAGTCTTGCTAGACCAAGCTTTTGATCGTATTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 641;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              43.2%; Score 465; DB 9; Le
.larity 100.0%; Pred. No. 6.6e-123;
Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     organism="Arabidopsis thaliana"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Arabidopsis thaliana (thale cress)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /db_xref="taxon:3702"
/clone="APZ38a12F"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /mol_type="mRNA"
/strain="Columbia"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AV520946
AV520946.1 GI:8680473
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Contact: Erika Asamizu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 481 AGTC 484
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            520 AGTC 523
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             465;
                       181
                                                                                                                                                                                                                                                                                      361
                                                                                                                                                                                                                                                                                                                                                                             421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 7
AV520946/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Best Loca
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                JOURNAL
MEDLINE
PUBMED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORIGIN
                                                     원
                                                                                                                                              ద
                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                       엄
                                                                                                                                                                                                                                                                                                                                                                                                                  d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                       ò
                                                                                                                                                                                           \overset{\circ}{\sigma}
                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Arabidopsis thaliana (thale cress)
Arabidopsis thaliana
Arabidopsis thaliana
Arabidopsis thaliana
Bukaryota; Viridiplanta: Streptophyta; Embryophyta; Tracheophyta;
Bukaryota; Viridiplanta: Streptophyta; Embryophyta; Tracheophyta;
Togids; eurosids II; Brassicales; Brassicaceae; Arabidopsis.
I (bases I to 523)
Asamizu,E., Nakamura,Y., Sato,S. and Tabata,S.
A large scale analysis of cNNA in Arabidopsis thaliana: Generation of I2,028 non-redundant expressed sequence tags from normalized and size-selected cDNA libraries
DNA Res. 7 (3), 175-180 (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                  AV442770 Arabidopsis thaliana above-ground organ two to six-week AV442770 Arabidopsis thaliana cone AP228c04_r 5', mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Contact: Erika Asamizu
The First Laboratory for Plant Gene Research
Taxusa DNA Research Institute
Yana 1532-3, Kisarazu, Chiba 292-0812, Japan
Email: asamizu@kazusa.or.jp, URL:http://www.kazusa.or.jp/en/plant/.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             t
C
                                                                                                                                                                        TTTGTCACCTTCACAAGTGGAAAGATTGTCAGCCTTAGTGGATGACAAGTTAGGTGGATC 1055
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                      995
                                                                                                                                                                                                CAAGAACTITIGAGAATCGATTCTTGTTTCGGAAAGGAGAAGTGAGTGATTGGGTTAACTA 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAGCTCGAAGCTCCTTAAAGAAGACAAAACTCGCGACGTCCCGAAAGCCGAAGAAGATGAA 159
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAGCTCGAGCTCCTTAAAGAAGGCAAAACTCGCGACGTCCCGAAAAGCCGAAGAAGATGAA 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /organism="Arabidopsis thaliana"
/mol_type="mRNA"
/strain="Columbia"
/db_xref="taxon:3702"
/clone="APZ28c04"
/tissue_type="aboveground organs"
/dev_stage="two to six-week old"
/clone=lib="Arabidopsis thaliana above-ground organ two to six-week old"
/clone=lib="Arabidopsis thaliana above-ground organ two to six-week old"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            40 ATGGCTACCTCAAGCATGAAGAGCATTCCAATGGCGATCCCAAGTTTCTCCATGTGTCAC 99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /note="Vector: pBluescriptII SK-; Site_1: EcoRI; Site_2: XhoI"
                         TGAGCTGTGTAGCTTCGAGAATCTGAAGAAGTTGGAGGTGAACAAGTCGAT
CGAGCTGTGTAGCTTCGAGAATCTGAAGAAGTTGGAGGTGAACAAGTCAAACAAGTCGAT
                                                                                      GTTTCGGAAAGGAGAGTGAGTGATTGGGTTAACTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATGGCTACCTCAAGCATGAAGAGCATTCCAATGGCGATCCCAAGTTTCTCCCATGTGTCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 523;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     tch
al Similarity 100.0%; Pred. No. 1.9e-128;
484; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                 1056 TGGTCTCACTTTCAGGTTGAGC 1077
                                                                                                                                                                                                                                                                                                         502
                                                                                                                                                                                                                                                                                         TGGTCTCACTTTCAGGTTGAGC
                                                                                    CAAGAACTTTGAGAATCGATTCI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AV442770.1 GI:7613187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AV442770
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            10907847
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EST
                                                                                                                                                                                                                     421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61
                                       301
                                                                                    936
                                                                                                                              361
                                                                                                                                                                      966
                                                                                                                                                                                                                                                                                                         481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local 8
                                                                                                                                                                                                                                                                                                                                                                                                                  LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Best Loca
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           JOURNAL
MEDLINE
PUBMED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACCESSION
                                                                                                                                                                                                                                                                                                                                                                      RESULT 6
AV442770
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORIGIN
```

ö

B ઠે CD $\stackrel{>}{\circ}$

ਨੇ

ø

ò g ď ò Д 8 g ∂

ò

```
Schmid, K.J., Soerensen, T.R., Stracke, R., Torjek, O., Altmann, T., Mitchell-Olds, T. and Weisshaar, B.
Large-scale identification and analysis of genome-wide single-nucleotide polymorphisms for mapping in Arabidopsis thaliana Genome. Res. 13 (6), 1250-1257 (2003)
                                                                                                                                                                                                                                                                                                                                                                                                                 CB260353 170-013-009-J20-T7R MPIZ-ADIS-013 Arabidopsis thaliana CDNA clone MPIZp770J209Q 5-PRIME, mRNA sequence.
                                                                                                                                                 462
                                                                                                                                                                                                                        402
                                                                                                                                                                                                                                                                912
                                                                                                                                                                                                                                                                                                                                                                             282
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Arabidopsis thaliana (thale cress)
Arabidopsis thaliana
Bukaryota, Viridiplantae, Streptophyta, Embryophyta, Tracheophyta,
Spermatophyta, Magnollophyta, eudicotyledons, core eudicots,
rosids, eurosids II; Brassicales, Brassicaceae, Arabidopsis.
                                                                                                                                                                                      852
                                                                                                                                                                                                                                                                                                                                                                                                                                         541 AACATCAAATCCGAGTCAGTGAGCCCAGTCTTGCTAGACCAAGCTTTTGATCTGTATTGC 582
                                                                                                             TIGAAGAGACCAGAGAAAGICTICTITITAAGGIACGAGGAICTCAAAGACGACAICGAG 792
                                                                                                                                                                                                                                                                                                    AAGGGAGTIGIGAAGGCIAICGCCGAGCIGIGIAGCIICGAGAAICIGAAGAAGIIGGAG 342
                                                                                                                                                                                                                                                                                                                                        GTGAACAAGTCAAACAAGTCGATCAAGAACTTTGAGAATCGATTCTTGTTTCGGAAAGGA 972
                                                                                                                                                                                                                                                                                                                                                              341 GTGAACAAGTCAAACAAGTCGATCAAGAACTTTGAGAATCGATTTTTTGTTTTCGGAAAGGA
                                                                                                                                     AAGGGAGTTGTGAAGGCTATCGCCGAGCTGTGTAGCTTCGAGAATCTGAAGAAGTTGGAG
                                                         793 ACCAACTIGAAGAGGCTIGCAACTITCTIAGAGCTICCTITCACCGAAGAAGAAGAACGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1033 GTGGATGACAGTTGAGTGGATCTGGTCTCACTTTCAGGTTGAGC 1077
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GIGGATGACAAGTTAGGTGGATCTGGTCTCACTTTCAGGTTGAGC 177
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Contact: Weisshaar B
ADIS DNA core facility at MPIZ
MAX-Planck-Institute for Plant Breeding Research
Carl-von-Linne Weg 10, 50829 Koeln, Germany
Fax: 00492215062851
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Email: weisshaa@mpiz-koeln.mpg.de
Insert Length: 585 Rtd Error: 0.00
Plate: 9 row: J column: 20
Seg primer: T7R; CTAATACGACTCACTATAGGGA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CB260353.1 GI:32885126
EST.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (bases 1 to 585)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      12799357
                                                                           581
                                                                                                               733
                                                                                                                                                     521
                                                                                                                                                                                                                            461
                                                                                                                                                                                                                                                                  853
                                                                                                                                                                                                                                                                                                        401
                                                                                                                                                                                                                                                                                                                                            913
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 8
CB260353
LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE
PUBMED
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TITLE
```

```
/note="Vector: pSPORT1; Site 1: SalT; Site 2: NotI; RNA from total, adult, 6 weeks old Arabidopsis_thaliana (accession Nd-1) plants, grown in the greenhouse under long day conditions in soil treated for 24 hours with different stresses, (1) at 4 Grad C in the dark, (2), at 37 Grad C in the dark, (2), at foreceps, (5) in the law batter removing from soil, (4) in the law batering with a 150 mM NaCl solution, (6) at 26 Grad C in the light/UV; equal quantities of stressed plant material were pooled; library was made at the Max-Planck-Institute for Plant Breeding Research, Cologne, Germany; cloning sites Sall-Not1, primer sites and orientation:
T7-Sall-CGACGCGCG-Sprime-CDNA-polyA-CC-NotI-SP6; Note: Sequencing granted in the context of the GABI Arabidopsis Verbund I: Genetic Diversity. 'Establishment of methods for genome-wide mutation detection' PI: Bernd Weisshaar Sequence submission managed by RZPD/GABI-Primary database: http://gabi.rzpd.de. This clone is available from RZPD; contact RZPD; contact RZPD; context purple of trither information."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EST 14-NOV-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GIGAGIGATIGGGITAACTATTIGICACCTICACAAGIGGAAAGATIGICAGCCITAGIG 1035
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               975
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Arabidopsis thaliana (thale cress)
Arabidopsis thaliana
Bukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 795
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    855
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 915
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AV441110 Arabidopsis thaliana above-ground organ two to six-week Av441110 Arabidopsis thaliana cone APZ28c04^-£ 3', mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      361 GTGAGTGATTGGGTTAACTATTTGTCACCTTCACAAGTGGAAAGATTGTCAGCGTTAGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   241 ecaciticicaacciariccccaaccicratecratecaaarcraaaarcraaagragggg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  916 AACAAGTCAAACAAGTCGATCAAGAACTTTGAGAATCGATTCTTGTTTCGGAAAGGAGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      616 ATCAAATCCGAGTCAGTGAGCCCAGTCTTGCTAGACCAAGCTTTTGATCTGTATTGCCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 Arcaaárccaagrcagrcagcccagrcrrgcragaccaagcrrrrgarcrgrafrgccg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      736 AAGAGACCAGAGAAAGTCTTTTTTAAGGTACGAGGATCTCAAAAGACGACATCGAGACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   796 AACTIGAAGAGCTIGCAACTITCTIAGAGCTICCTITCACCGAAGAAGAAGAAGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GGAGTTGTGAAGGCTATCGCCGAGCTGTGTAGCTTCGAGAATCTGAAGAAGTTGGAGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      42.9%; Score 462; DB 14; Length 585; 100.0%; Pred. No. 4.6e-122; tive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AV441110
AV441110.1 GI:7611490
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Best Local Simi
Matches 462;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       928
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       926
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 9
AV441110/c
LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ORIGIN
```

ð ď à g ð g à d à g $\stackrel{>}{\circ}$ 원 $\stackrel{>}{\circ}$ 셤 ò g

Dp

g

à 셤

ò

```
111 CACAAGCACGAGCTCCTCAAGGAAGAAGGCAAAAAGCCGAGAACCGGAAGAAGAA 170
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          412 GACCTTGTACCTTTCTTCGAGTACAAGCTTTACGCCAACGGAGATGTTCCCGATCTCTCG 471
                                                            Tracheophyta;
                                                                                                                                                   Unpublished (2003)
Unpublished (2003)
Unpublished (2003)
Contact: Genoplante
Contact: Genoplante
Genoplante
93, rue Henri Rochefort 91025 EVRY CEDEX France
Tel: 33 1 69 47 54 00
Fax: 33 1 69 47 54 10
This sequence has been generated in the framework of the french
plant genomics programme 'Genoplante' (http://www.genoplante.com
and http://genoplante-info.infobiogen.fr).
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           51 ArceceaccicaAcearcaAcacerriceAATAArceceArcecaAcriferecentree
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           351 ACCATACCAAAATCCGGTACAACATGGTTAAAAGCTTTAAACGTTTAACCGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               112 GAAGATGAAGGGCTAAGCTGCGAGTTCCAAGAGATGTTGGATTCTCTTCCTAAGGAGAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      231 GGTTGGAGAAACTCGTCATTACCTGTTCCAAGGCTTTTGGTGCCAAGGAGATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             291 CATGCCATCATGTCCTTCCAGAACATTTCAAGACTCTCCCAAAAGATGTTATTCTCGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             462 GACCTCGTACCTTTGGAGTACAAGCTTTACGCCAACGGAGAAGTTCCTGATCTCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       472 GGTCTAGCCAGTCCAAGAACGTTCGCAACCACTTACCGTTCGGTTCCCTAAAGGAAACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              522 Gerciagoradrecaagaacarregeaacacacecerrregerrerereaaggeeree
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         58 CACAAGCTCGAGCTCCTTAAAGAAGGCAAAACTCGCGACGTCCCGA-----AAGCCGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          232 CAAGCCATCATGTCTTTCCAAAACATTTCCAAATCCTTCGAAAACGACGTCGTTCTCGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    292 ACCATACCTAAATCCGGTACAACCTGGCTAAAAGCTTTAACTTTTCACCATCCTTAACCGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               352 CACCGGTTTGATCCGGTTGCCTCGAGTACCAACCACCCTCTTTTCACTTCCAACCCTCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     411 caccediridarccedr-----ricreaccaccricicarcarcaaaccricar
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    532 ATCGAGAAACCCGGTGTGAAGGTCGTGTACTTGTGCCGGAACCCGTTTGACACTTCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                       Eunaryota; Viridiplantae; Streptophyta; Embryophyta; Trak
Spermatophyta; Magnoliophyta; eudicotyledons; core eudicr
rosids; eurosids II; Brassicales; Brassicaceae; Brassica.
[ (bases 1 to 727)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 727;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 ATGCTACCTCAAGCATGAAGAGCATTCC---AATGGCGATCCCAAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       42.1%; Score 453.6; DB 14; Length larity 82.2%; Pred. No. 1.4e-119; Conservative 0; Mismatches 104; Indels
                                                                                                                                                                                                                                                                                                                                                                                          /organism="Brassica napus"
/mol type="mRNA"
cultivar="Jet neuf"
/db_xref="taxon:3708"
/clone="RN4502C001"
/tissue_type="seed"
/clone_lib="BN45"
                    Brassica napus (rape)
                                                                                                                        l (bases l
Genoplante.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity
Matches 564; Conserv
KEYWORDS
SOURCE
ORGANISM
                                                                                                                REFERENCE
AUTHORS
TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                       FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Пр
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
              Asamizu, E., Nakamura, Y., Sato, S. and Tabata, S. A. large scale analysis of cDNA in Arabidopsis thaliana: Generation of 12,028 non-redundant expressed sequence tags from normalized and slize-selected cDNA libraries
DNA Res. 7 (3), 175-180 (2000)
                                                                                                                                                                                         The First Laboratory for Plant Gene Research
Kazusa DNA Research Institute
Yana 1532-3, Kisarazu, Chiba 292-0812, Japan
Email: asamizu@kazusa.or.jp, URL:http://www.kazusa.or.jp/en/plant/.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                        S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GTGAGTGATTGGGTTAACTATTTGTCACCTTCACAAGTGGAAAGATTGTCAGCCTTAGTG 1035
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   727 bp mRNA linear EST 10-JUL-2003
Brassica napus cDNA clone BN45052G01, mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           579
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      675
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               795
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAGAGACCAGAGAAAAGTCTTCTTTTTAAGGTACGAGGATCTCAAAGACGACATCAGAGACC 459
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                399
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               339
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    975
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AACTTGAAGAGGCTTGCAACTTTCTTAGAGCTTCCTTTCACCGAAGAAGAGGAACGAAAG 855
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GGAGTTGTGAAGGCTATCGCCGAGCTGTGTAGCTTCGAGAATCTGAAGAAGTTGGAGGTG 915
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          338 AACAAGTCAAACAAGTCGATCAAGAACTTTGAGAATCGATTCTTGTTTCGGAAAGGAGAA 279
                                                                                                                                                                                                                                                                                                                                                           /db xref="taxon:3702"
/clone="AP228c04 f"
/tissue type="aboveground organs"
/dev_grage="two to six-week old"
/clone lib="Arabidopsis thaliana above-ground organ two six-week old"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /note="Vector: pBluescriptII SK-; Site_1: EcoRI; Site_2:
XhoI"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AACTTGAAGAGGCTTGCAACTTTCTTAGAGCTTCCTTTCACGAAGAAGAAGAAGAAGAAGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            278 GIGAGTGATIGGGTTAACTATITGTCACCCTTCACAAGTGGAAAGATIGTCAGCCTTAGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATCAAATCCGAGTCAGTGAGCCCAGTCTTGCTAGACCAAGCTTTTGATCTGTATTGCCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAGAGACCAGAGAAAGTCTTCTTTTTAAGGTACGAGGATCTCAAAGACGACATCGAGACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             398 caacircicaaccirarccccaacrereraccriceaaarcreaaaacriceaacarc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AACAAGTCAAACAAGTCGATCAAGAACTTTGAGAATCGATTCTTGTTTCGGAAAGGAGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATCAAATCCGAGTCAGTGAGCCCAGTCTTGCTAGACCAAGCTTTTGATCTGTATTGCCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
eurosids II; Brassicales; Brassicaceae; Arabidopsis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ..
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 638;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1036 GATGACAAGTTAGGTGGATCTGGTCTCACTTTCAGGTTGAGC 1077
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 177
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GATGACAAGTTAGGTGGATCTGGTCTCACTTTCAGGTTGAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       42.9%; Score 462; DB 9; Le
.larity 100.0%; Pred. No. 4.8e-122;
Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                 organism="Arabidopsis thaliana"
                                                                                                                                                                                                                                                                                                                                    /mol_type="mRNA"
/strain="Columbia"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        BN45
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GI:32519415
                                                                                                                                                                            Contact: Erika Asamizu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CD837475
BN45.052G01F020104 B1
sequence.
CD837475.1 GI:32519
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Similarity
                                                                                                                                                         10907847
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ma
Local 5.
462;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local S:
Matches 462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             638
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     518
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      916
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 218
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      919
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   919
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        578
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               736
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            796
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    458
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         856
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 916
                                                                                                                                                                                                                                                                                                   source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 10
CD837475
LOCUS
DEFINITION
                REFERENCE
AUTHORS
TITLE
                                                                                                                                       MEDLINE
PUBMED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ACCESSION
                                                                                                                    JOURNAL
                                                                                                                                                                                                                                                                            FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  VERSION
                                                                                                                                                                          COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   상 음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g &
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
```

'n

110

111

171

231 290 291 410

411 461 521 531 581 641

g

ò

Db

à

```
Arabidopsis thaliana (thale cress)
Arabidopsis thaliana
Arabidopsis thaliana
Bukaryota; Viridiplana
Bukaryota; Viridiplana
Bukaryota; Magnaniophyta; eudicotyledons; core eudicots;
rosids; eurosids II; Brassicales; Brassicaceae; Arabidopsis.
I (bases I to 531)
A samizu, E., Nakamura, Y., Sato, S. and Tabata, S.
A large scale analysis of cDNA in Arabidopsis thaliana: Generation of I2,028 non-redundant expressed sequence tags from normalized and bux Res. 7 (3), 175-180 (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AV442439 Arabidopsis thaliana above-ground organ two to six-week old Arabidopsis thaliana clone APZ27a12_r 5', mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Yana 1532-3, Kisarazu, Chiba 292-0812, Japan
Email: asamizu@kazusa.or.jp, URL:http://www.kazusa.or.jp/en/plant/.
Location/Qualifiers
                                   463
                                                                                                                                                                                                                                                                                                                               411
                                                                     GACCITGIACCITTCITCGAGTACAAGCITTACGCCAACGGAGAIGITCCCGGICTCTCG 471
                                                                                                           523
                                                                                                                                                                           591
                                                                                                                                                                                                                                                               584 Arceaegaacceaegeaaccaaegricierariciereseaaccearceaeaccearceaeacacarcarc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              165 GCACAGAGGATGGAGAACTCGTTACCTTTACCTATTCCAAGGGTTTTGGTGCCAAGCCAA 224
                                                                                                                                                 GGTCTAGCCAGTCCAAGAACGTTCGCAACCCACTTACCGTTCGGTTCCCTAAAGGAAACG 531
                                                                                                                                                                                                                                                                                                     TCTTCGTGGCATTACACCAACAACATCCAAGTCAGTGAGCCCCAGTCTTGCTAGAC 651
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 GGAGAGAGGACGAGAATCGTTACTTTACTTATTCCAAGGGTTTCGGTGCCAAGCTAA 60
                     413 CACCGGTTTGATCCGGT-----TTCTGACCACCCTCTCCTCACAAACCTCAT
                                                                                               CACCGGTTTGATCCGGTTGCCTCGAGTACCAACCACCCTCTTTTCACTTCCAACCCTCAT
                                                                                                                                                                                                                           ATCGAGAAACCCGGTGTGAAGGTCGTGTACTTGTGCCGGAACCCGGTTGACACATTCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 531;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Contact: Brika Asamizu
The First Laboratory for Plant Gene Research
Kazusa DNA Research Institute
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 421.4; DB 9;
Pred. No. 2.4e-110;
0; Mismatches 51;
                                                                                                                                                                                                                                                                                                                                                                                                     703 GAAG-GGTTGATCTGTATTGCAGGGGAGTGAT 733
                                                                                                                                                                                                                                                                                                                                                                                 652 CAAGCTTTTGATCTGTATTGCCGGGGAGTGAT 683
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AV442439.1 GI:7612848
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local Similarity 89.6%;
Matches 465, Conservative 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            10907847
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        20363093
                                                                         412
                                                                                                                                                       472
                                                                                                                                                                                                                               532
                                                                                                                                                                                                                                                                                                         592
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  JOURNAL
MEDLINE
PUBMED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 12
AV442439
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ORIGIN
                                                                                                       엄
                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                               원
                                                                                                                                                                                                                                                                                                                                     g
                             임
                                                                         8
                                                                                                                                                     ò
                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                         ਨੇ
                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                           CD834047 170-1018 BN45 Brassica napus CDNA clone BN45040G17, mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ŝ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       112
                                                                                                                                                                                                                                                                                                                                                       Eukaryota, Viridiplantae, Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; Wagnoliophyta; eudicotyledons; core eudicots; rosids; eurosids II; Brassicales; Brassicaceae; Brassica.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           642 recrecidedaritreageaacadaadarededagreegreagreederedaredaa 701
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           58 CACAAGCTCGAGCTCCTTAAAGAAGGCAAAACTCGCGACGTCCCGA-----AAGCCGAA 111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CAAGCCATCATGTCTTTCCAAAACATTTCCAATCCCTCGAAAACGACGTCGTTCTCGCC 291
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           352
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    57
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      This sequence has been generated in the framework of the french plant genomics programme 'Genoplante' (http://www.genoplante.com and http://genoplante-info.infobiogen.fr).

Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                  Genoplante, a major partnership french program in plant genomics Unpublished (2003)
   TCTTCGTGGCATTACACCAACAACATCGAATCCGAGTCAGTGAGCCCAGTCTTGCTAGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 ATGCTACCTCAAGCATGAAGAGCATTCC---AATGGCGATCCCAAGTTTCTCCATGTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       112 GAAGATGTAAGGCTAAGCTGCGAGTTCCAAGAGATGTTGGATTCTTCCTAAGGAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             233 GGTTGGAGAACTCGTCATCTTTACCTGTTCCAAGGCTTTTGGTGCCAAGCCAAGGAGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CATGCCATCATGTCCTTCCAGAAACATTTCAAGACTCTCCCAAAAGATGTTATTCTCGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               292 ACCATACCTAAATCCGGTACAACCTGGCTAAAAGCTTTAACTTTCACCATCCTTAACCGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             20; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB 14; Length 734;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match 40.4%; Score 435.6; DB 14; Length Best Local Similarity 82.1%; Pred. No. 2.2e-114; Matches 568; Conservative 0; Mismatches 104; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                93, rue Henri Rochefort 91025 EVRY CEDEX France
Tel: 33 1 69 47 54 00
Fax: 33 1 69 47 54 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      'organism="Brassica napus"
                                                                             652 CAAGCTTTTGATCTGTATTGCCGGGG 677
                                                                                                 702 GAAGGGGTTGATCTGTATTGCAGGG 727
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /mol type="mRNA"

/cultivar="Jet neuf"

/db xref="taxon:3708"

/clone="BN45040G17"

/tissue type="seed"

/clone_lib="BN45"
                                                                                                                                                                                                                                                                                       CD834047.1 GI:32515987
                                                                                                                                                                                                                                                                                                       EST.
Brassica napus (rape)
Brassica napus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Contact: Genoplante
Genoplante
                                                                                                                                                                                                                                                                                                                                                                                                                     1 (bases 1 to 734)
                                                                                                                                                                                                                                                                                                                                                                                                                                          Genoplante.
                                                                                                                                                                                                                                               sequence.
                                                                                                                                                                                                                                                                       CD834047
     592
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         53
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           293
                                                                                                                                                                                         CD834047
LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                     VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE
AUTHORS
TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                                                   ACCESSION
                                                                                                                                                                           RESULT 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FEATURES
```

ORIGIN

В

g ò g

ò

ф

ò

à g 8 σ

233

231 293 291 353

111 173 171

113

57

g

qq 8 \$\frac{1}{2} \text{P} \text{S} \text{P} \text{S} \text{P} \text{S}

Dp 8 g

```
657 bp mRNA linear EST 10-JUL-2003 BN25.047A10, mRNA sequence. CD822905.1 GI:32504845 BST.
                                                                                                                                                                                                                                                                                                                                                Brassica napus (rape)
Brassica napus
Brassica napus
Brassica napus
Brassica napus
Brassica napus
Brassica; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots;
Tosids; eurosids II; Brassicales; Brassicaceae; Brassica.
1 (bases I to 657)
Genoplante.
                                                                                                                                                                                                                                                                                                                               ACCATACCTAAATCCGGTACAACCTGGCTAAAAGCTTTAACTTTCACCATCCTTAACCGT 351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Journal Rochefort 91025 EVRY CEDEX France
Tel: 33 1 69 47 54 00
Fax: 31 1 69 47 54 10
This sequence has been generated in the framework of the french plant genomics programme 'Genoplante' (http://www.genoplante.com and http://genoplance-info.infobiogen.fr).

1. 657
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    plant genomics
GAAGAAGAACTCTTAGAGATCTTTAGAGATGTTGGACTCTTTCCTAAGGAGAGA
                                                                                                                                                                                                                  134 GGTTGGAGAACTCGTCATCTTACTGTTCCAAGGCTTTTGGTGCCAAGCCAAGGATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GACCTCGTACCTTTCTTGGAGTACAAGCTTTACGCCAACGGAGAAGTTCCTGATCTCTCC
                                                                CACAAGCTCGAGCTCCTTAAAGAAGGCAAAACTCGCGGACGTCCCGA-----AAGCCGAA
                                                                                                                               GAAGATGAAGGCCTAAGCTGCGAGTTCCAAGAGATGTTGGATTCTCTTCCTAAGGAGAGA
                                                                                                                                                                                                                                                               CAAGCCATCATGTCTTTCCAAAACATTTCCAATCCCTCGAAAACGACGTCGTTCTCGCC
                                                                                                                                                                                                                                                                                   294 CATGCCATCATGTCCTTCCAGAAACATTTCAAGACTCTCCCCAAAAGATGTTATTCTCGCC
                                                                                                                                                                                                                                                                                                                                                                                                                        414 CACCGGTTTGATCCGGT-----TTCTGACCACCTCTCCTCACATCAAACCCTCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                GACCTTGTACCTTTCTTCGAGTACAAGCTTTACGCCAACGGAGATGTTCCCCGATCTCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GGTCTAGCCAGTCCAAGAACGTTCGCAACCCACTTACCGTTCGGTTCCCTAAAGGAAACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATCGAGAAACCCGGTGTGAAGGTCGTGTACTTGTGCCGGAACCCGTTTGACACATTCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATCGAGGAACCGGAAGGTTGTTGTTGTTGTTGTTGTCGGAACCCGTTCGACACGTTCATC
                                                                                    GGATGGAGAACTCGTTACCTTTACCTATTCCAAGGGTTTTTGGTGCCAAGCCAAAGAGATT
                                                                                                                                                                                                                                                                                                                                                                                               CACCGGTTTGATCCGGTTGCCTCGAGTACCAACCACCCTCTTTTCACTTCCAACCCTCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    i,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Genoplante, a major partnership french program Unpublished (2003)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Contact: Genoplante
Genoplante
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TCTTCGT 598
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  rccrcgr 651
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  585
                                 54
                                                                28
                                                                                                                               112
                                                                                                                                                               174
                                                                                                                                                                                                                                                               232
                                                                                                                                                                                                                                                                                                                                292
                                                                                                                                                                                                                                                                                                                                                                354
                                                                                                                                                                                                                                                                                                                                                                                                 352
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  525
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    532
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   592
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  645
                                                                                                                                                                                                172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  412
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 472
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 14
CD822905
LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  REFERENCE
AUTHORS
TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FEATURES
   à
                     엄
                                                        ò
                                                                                       엄상
                                                                                                                                                      a
                                                                                                                                                                                      \delta
                                                                                                                                                                                                                     원
장
                                                                                                                                                                                                                                                                                      8 8
                                                                                                                                                                                                                                                                                                                                                     엄
                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                              δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              \delta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EST 10-JUL-2003
BN45001G09, mRNA
                                                                                                                                                   Eukaryota, Viridiplantae, Streptophyta, Embryophyta, Tracheophyta, Spermatophyta, Visidiplantae, Streptophyta, eudicotyledons, core eudicots, rosids, eurosids II, Brassicales, Brassicaceae, Brassica.
              344
                                                                                    CCTCGCCACCATACCTAAATCTGGCACAACCTGGTTAAAAGCTTTAACTTTCACCATCCT 180
                                                                                                                               TAACCGTCACCGGTTTGATCCGGTTGCC---TCGAGTACCAACCACCCTCTTTTCACTTC 401
                                                                                                                                                                                                CAACCCTCATGACCTTGTACCTTTCTTCGAGTACAAGCTTTACGCCAACGGAGATGTTCC 461
                                                                                                                                                                                                                     CAACCTCACGACCTCGTACCTTTCTTCGAGTACAAGCTTTACGCCAACGAAATGTTCC 300
                                                                                                                                                                                                                                                               521
                                                                                                                                                                                                                                                                                                                                AAAGGAAACGATCGAGAAACCCGGTGTGAAGGTCGTGTACTTGTGCCGGAACCCGTTTGA 581
                                                                                                                                                                                                                                                                                                                                                     TAAGGATTCGGTCGAGAATCCCAGTGTGAAGGTTGTGTACCTGTGCCGGAACCCGTTTGA 420
                                                                                                                                                                                                                                                                                                                                                                                                 641
                                                                                                                                                                                                                                                                                                                                                                                                                        93, rue Henri Rochefort 91025 EVRY CEDEX France
Tel: 33 1 69 47 54 00
Fax: 33 1 69 47 54 10
This sequence has been generated in the framework of the french plant genomics programme 'Genoplante' (http://www.genoplante.com
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   plant genomics
                                                                                                                                                                                                                                                               CGATCTCTCGGGGTCTAGCCAGTCCAAGAACGTTCGCAACCCACTTACCGTTCGGTTCCCT
                                                                                                                                                                                                                                                                                                                                                                                                 CACATTCATCTTCGTGGCATTACACCAACATCAAATCCGAGTCAGTGAGCCCAGT
                                                               TCTCGCCACCATACCTAAATCCGGTACAACCTGGCTAAAAGCTTTAACTTTCACCATCCT
 AGAGATTCAAGCCATCATGTCTTTCCAAAACATTTCCAATCCCTCGAAAACGACGTCGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         651;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CD833738 651 bp mRNA linear
BN45,001G09F010914 BN45 Brassica napus cDNA clone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Genoplante.
Genoplante, a major partnership french program in
Unpublished (2003)
Contact: Genoplante
Genoplante
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CTTGCTAGACCAAGCTTTTGATCTGTATTGCCGGGGAGT 680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CTTGCTAGACGAGCTTTTGATCTATATTGCCGGGGATT 519
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match 37.2%; Score 400.2; DB 14; Best Local Similarity 82.5%; Pred. No. 3.6e-104; Matches 501; Conservative 0; Mismatches 88; 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /organism="Brassica napus"
/mol_type="mRNA"
/cultivar="Jet neuf"
/db_xref="taxon:3708"
/clone="RNA5004009"
/tissue_type="seed"
/clone_lib="BN45"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CD833738.1 GI:32515678
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Brassica napus (rape)
Brassica napus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   sequence.
                             61
                                                               285
                                                                                              121
                                                                                                                               345
                                                                                                                                                               181
                                                                                                                                                                                                                              241
                                                                                                                                                                                                                                                               462
                                                                                                                                                                                                                                                                                                                                522
                                                                                                                                                                                                                                                                                                                                                                361
                                                                                                                                                                                                                                                                                                                                                                                               582
                                                                                                                                                                                                                                                                                                                                                                                                                                 421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                481
225
                                                                                                                                                                                               402
                                                                                                                                                                                                                                                                                                 301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  642
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 13
CD833738
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                REFERENCE
AUTHORS
TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FEATURES
```

524 531 584 591 644

464 471

```
Whole genome shotgun sequencing of Brassica oleracea Unpublished (2001)
Other GSSs: BOIGS48TR
Contact: Chris Town
TIGR
TIGR
9712 Medical Center Drive, Rockville, MD 20850, USA.
Tel: 301-838-0208
Email: cdtown@tigr.crg
DNA is from a doubled haploid provided by Tom Osborn.
Seg primer: TF
Class: sheared ends.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Search completed: August 17, 2004, 05:07:02 Job time : 3232 secs
                                                                                                                                                                                                             Location/Qualifiers
                                                                                                                                                                                                                                     1. .760
                                                                                                                                                                                                                                                                                                                                                                                                                                               Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  469;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       270
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          352
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             412
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      532
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     39
                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Local
                                                                                                                                                                                                                                         source
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Best Loc
Matches
     TITLE
JOURNAL
                                                                                                                                                                                                                    FEATURES
                                        COMMENT
                                                                                                                                                                                                                                                                                                                                                                                             ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      \delta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               \dot{\delta}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Dp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DOIGS48TF BO 1.4 1.6 KB nuc Brassica oleracea genomic clone BOIGS48, genomic survey sequence. CC552179 CC552179.1 GI:33790676 GSS.
                                                                                                                                                                                                      'n
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Brassica oleracea
Brassica oleracea
Bukaryota, Oleracia
Bukaryota, Viridiplantae, Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots;
rosids; eurosida II; Brassicales; Brassicaceae; Brassica.
1 (bases 1 to 760)
Town, C.D., Van Aken, S., Utterback, T., Koo, H. and Fraser, C.M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                 231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 470
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    530
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GATCGAGAAACCCGG-TGTGAAGGTCGTGTACTTGTGCCGGAACCCGTTTGACACTTCA 589
                                                                                                                                                                                                                                                                                                          CACAAGCTCCAGCTCCTTAAAGAAGGCAAAACTCGCGACGTCCCGA-----AAGCCGAA 111
                                                                                                                                                                                                                                                                                                                                           111 cacaagcacgaccrccrcaaggaagaaggcaaaagccgagacccgaaggcgcaagaaaa 170
                                                                                                                                                                                                                                                                                                                                                                              112 GAAGATGAAGGCTAAGCTGCGAGTTCCAAGAGATGTTGGATTCTTCCTAAGGAGAGA 171
                                                                                                                                                                                                                                                                                                                                                                                                              230
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  231 gerrecagaacrecarerriacererrecaageerrregreceaageera
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       291 careccarcarerecriceagaaacarricaagecrerrecaaaagarerrarecriser 350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      292 ACCATACCTAAATCCGGTACAACCTGGCTAAAAGCTTTAACTTTCACCATCCTTAACGT 351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         410
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             411
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          641
                                                                                                                                                                                                                                                                      51 Aregogaccicaaccarcaacacrericcaaraaregogarcccaacrirarccarride 110
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CAAGCCATCATGTCTTTCCAAAACATTTCCAATCCCTCGAAAACGACGTCGTTCTCGCC 291
                                                                                                                                                                                                                                       57
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           582 AATCGAGGAACCGGGACCTGAACGTTGTGTGTGTGGAACCGTCCGACCCGTTCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  462 GACCTCGCTACCTTTCTTGGAGTACAAGCTTTACGCCAACGGAGAAGTTCCTGATCTCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GGGTCTAGCCAGTCCAAGAACGTTCGCAACCCACTTACCGTTCGGTTCCCTAAAGGAAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 522 cagreragecragiceaagaacarrescaacacacerecerrresgrierereaaggere
                                                                                                                                                                                                                                                                                                                                                                                                    GAAGAAGGAGCTAAGCTACGAGTTCTTAGAGATGTTGGACTCTCTTCCTAAGGAGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           352 CACCGGTTTGATCCGGTTGCCTCGAGTACCAACCACCTCTTTTCACTTCCAACCCTCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 412 GACCTTG-TACCTTTCTTCGAGTACAAGCTTTACGCCAACGGAGATGTTCCCGATCTCTC
                                                                                                                                                                                                                                         TTCTCCATGTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                   GGATGGAGAACTCGTTACCTTTACCTATTCCAAGGGTTTTGGTGCCAAGCCAAAGAGATT
                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                    20;
                                                                                                                                                                  DB 14; Length 657;
                                                                                                                                                                                                                                       ATGGCTACCTCAAGCATGAAGAGCATTCC---AATGGCGATCCCAAGT
                                                                                                                                                                                                      Indels
                                                                                                                                                                  Query Match 34.1%; Score 367.2; DB 14; Best Local Similarity 80.8%; Pred. No. 1.3e-94; Matches 496; Conservative 0; Mismatches 98;
         /organism="Brassica napus"
/mol_type="mRNA"
cultivax="Jet neuf"
/db_xref="taxon:3708"
/clone="MRX5047AA10"
/tissue_type="seed"
/clone_lib="BN25"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  655
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TCTCTTCGTGGCAT 603
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TCTCCTCCTGGCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                290
                                                                                                                                                                                                                                                                                                            58
                                                                                                                                                                                                                                                                                                                                                                                                                                                   172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                411
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       471
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  642
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 15
CC952179/c
LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACCESSION
```

g

g

à d à

ò

g

g

ò

à

g

ò 셤 δ à D ò g à Db ò

```
111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             331
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              411
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          210 caccedrirgarccedr.-----rrcradccaccrcrcrcacarcaacccrcar 160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GACCTTGTACCTTTCTTCGAGTACAAGCTTTACGCCAACGGAGATGTTCCCGATCTCTCG 471
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  159 GACCTCGTACCTTTCTTGGAGTACAAGCTTTACGCCAACGGAGAAGTTCCTGATCTCTCC 100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    472 GGTCTAGCCAGTCCAAGAACGTTCGCAACCCACTTACCGTTCGGTTCCCTAAAGGAAACG 531
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          511
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             451
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     391
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              291
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     271
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        211
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              57
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          40
/organism="Brassica oleracea"
/mol type="genomic DNA"
/strain="TO100DH3"
/db xref="teaxon:3712"
/clone="BOIGS48"
/clone="BOIGS48"
/clone="boigs48"
/clone="boigs48"
/clone="boigs48"
/clone="boigs48"
/clone="boigs48"
/clone="boigs48"
/clone="boigs48"
/clone="boigs48"
/clone="boigs48"
/clone="boigs48"
/clone="boigs48"
/clone="boigs48"
/clone="boigs48"
/clone="boigs48"
/clone="boigs48"
/clone="boigs48"
/clone="boigs48"
/clone="boigs48"
/clone="boigs48"
/clone="boigs48"
/clone="boigs48"
/clone="boigs48"
/clone="boigs48"
/clone="boigs48"
/clone="boigs48"
/clone="boigs48"
/clone="boigs48"
/clone="boigs48"
/clone="boigs48"
/clone="boigs48"
/clone="boigs48"
/clone="boigs48"
/clone="boigs48"
/clone="boigs48"
/clone="boigs48"
/clone="boigs48"
/clone="boigs48"
/clone="boigs48"
/clone="boigs48"
/clone="boigs48"
/clone="boigs48"
/clone="boigs48"
/clone="boigs48"
/clone="boigs48"
/clone="boigs48"
/clone="boigs48"
/clone="boigs48"
/clone="boigs48"
/clone="boigs48"
/clone="boigs48"
/clone="boigs48"
/clone="boigs48"
/clone="boigs48"
/clone="boigs48"
/clone="boigs48"
/clone="boigs48"
/clone="boigs48"
/clone="boigs48"
/clone="boigs48"
/clone="boigs48"
/clone="boigs48"
/clone="boiss48"
/clone="boiss48"
/clone="boiss48"
/clone="boiss48"
/clone="boiss48"
/clone="boiss48"
/clone="boiss48"
/clone="boiss48"
/clone="boiss48"
/clone="boiss48"
/clone="boiss48"
/clone="boiss48"
/clone="boiss48"
/clone="boiss48"
/clone="boiss48"
/clone="boiss48"
/clone="boiss48"
/clone="boiss48"
/clone="boiss48"
/clone="boiss48"
/clone="boiss48"
/clone="boiss48"
/clone="boiss48"
/clone="boiss48"
/clone="boiss48"
/clone="boiss48"
/clone="boiss48"
/clone="boiss48"
/clone="boiss48"
/clone="boiss48"
/clone="boiss48"
/clone="boiss48"
/clone="boiss48"
/clone="boiss48"
/clone="boiss48"
/clone="boiss48"
/clone="boiss48"
/clone="boiss48"
/clone="boiss48"
/clone="boiss48"
/clone="boiss48"
/clone="boiss48"
/clone="boiss48"
/clone="boiss48"
/clone="boiss48"
/clone="boiss48"
/clone="boiss48"
/clone="boiss48"
/clone="boiss48"
/clone="boiss48"
/clone="boiss48"
/clone="bois
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          190 GGTTGGAGAACTCGTCATCTTTACCTGTTCCAAGGCTTTTGGTGCCAAGCCAAGGAGATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACCATACCTAAATCCGGTACAACCTGGCTAAAAGCTTTAACTTTCACCATCCTTAACCGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             99 AGICITAGCIAGICCAAGAACATICGCAACACGICCCTITCGGIICTCTCAAGGGCICA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 ATGGCTACCTCAAGCATGAAGAGCATTCC---AATGGCGATCCCAAGTTTCTCCATGTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 58 CACAAGCTCGAGCTCCTTAAAGAAGGCAAAACTCGCGACGTCCCGA-----AAGCCGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CAAGCCATCATGTCTTTCCAAAACATTTCCAATCCCTCGAAAACGACGTCGTTCTCGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          330 CATGCCATCATGTCCTTCCAGAAACATTTCAAGCCTCTTCCAAAAGATGTTATCCTTGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CACCGGTTTGATCCGGGTTGCCTCGAGTACCAACCACCTCTTTTCACTTCCAACCCTCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          570 Arescencercanscarcandagererrecantaraseceareceanstrarecarries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         112 GAAGATGAAGGGCTAAGCTGCGAGTTCCAAGAGATGTTGGATTCTCTTCCTAAGGAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GGATGGAGAACTCGTTACCTATTCCAAGGGTTTTGGTGCCAAGGATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            760;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 34.0%; Score 365.8; DB 29; Length llarity 81.0%; Pred. No. 3.4e-94; Conservative 0; Mismatches 92; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       570
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ATCGAGAAACCCGGTGTGAAGGTCGTGTACTTGTGCCGG
```

```
(without alignments)
6161.671 Million cell updates/sec
                                                                                                                                                                                                                                                         1 atggctacctcaagcatgaa......gtctcactttcaggttgagc 1077
                                                                                                                          August 17, 2004, 02:51:44 ; Search time 97 Seconds
GenCore version 5.1.6
Copyright (c) 1993 - 2004 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                      Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                682709 seqs, 277475446 residues
                                                                               - nucleic search, using sw model
                                                                                                                                                                                                                                                                                                IDENTITY NUC Gapox 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                  Minimum DB seq length: 0
Maximum DB seq length: 200000000
                                                                                                                                                                                                       US-10-019-931-1
1077
                                                                                                                                                                                                                                Perfect score:
                                                                                                                                                                                                                                                                                                Scoring table:
                                                                               OM nucleic
                                                                                                                                                                                                                                                         Sequence:
                                                                                                                                                                                                                                                                                                                                                                Searched:
                                                                                                                          Run on:
```

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

/cgm2_6/prodata/2/ina/5A_COMB.seq:*
/cgm2_6/prodata/2/ina/5B_COMB.seq:*
/cgm2_6/prodata/2/ina/6A_COMB.seq:*
/cgm2_6/prodata/2/ina/6A_COMB.seq:*
/cgm2_6/prodata/2/ina/PcTUS_COMB.seq:*
/cgm2_6/prodata/2/ina/PcTUS_COMB.seq:*

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

Issued_Patents NA:*

Sequence 2, App.-Sequence 359, App Sequence 3123, Applinence 1, Appli Sequence 3, Sequence 18033, A Sequence 18033, A Sequence 14, Appl Sequence 6743, Ap Sequence 115, App Sequence 15639, A Sequence 90, Appl Sequence 13, Appl Sequence 2813, Ap Sequence 91, Appl Sequence 1, Appl Sequence 2, Appl Sequence 2, Appl Sequence 834, 1 Sequence 664, 1 Sequence 7, ? Sequence 44, Sequence 1 Description Sequence 1-976-15639 2-620B-90 SUMMARIES Query Match Length DB 1230025 4403765 Result

Sequence 296, App	Sequence 4884, Ap	8976,	292,	4830,	294	4859,	Sequence 280, App	4842	272,	Sequence 4897, Ap	3, Ap	Sequence 1, Appli	H	984	Sequence 1, Appli	H	Sequence 327, App	
US-09-199-637A-296	US-09-252-991A-4884	US-09-621-976-8976	US-09-199-637A-292	US-09-252-991A-4830	US-09-199-637A-294	US-09-252-991A-4859	US-09-199-637A-280	US-09-252-991A-4842	US-09-199-637A-272	US-09-252-991A-4897	US-09-762-724-3	US-09-199-637A-1	US-07-952-800-1	US-09-621-976-984	US-08-325-562-1	US-08-437-795-1	US-09-072-596-327	
4	4	4	4	4	4	4	4	4	4	4	4	4	Н	4	Н	~1	4	
354	354	399	789	789	1116	1116	2580	2580	2970	2970	3008	42235	2130	540	1063	1063	1069	
2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	23	2.8	2.8	2.8	
30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.2	30	30	30	30	
8	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	
O	υ				υ	υ			υ	υ	υ	U						ľ

S
H
z
ш
Σ
z
O
н
ы
Þ

Sequence 10, Application US/08232463
Fatent No. 5670367
GENERAL INFORMATION:
GENERAL INFORMATION:
FAPLICANT: BORNER, F.
APPLICANT: SCHEIFLINGER, F.
APPLICANT: FALKNER, F. G.
TITLE OF INVENTION: RECOMBINANT FOWLPOX VIRUS
NUMBER OF SEQUENCES: 52
CORRESPONDENCE ADDRESS:
ADDRESSEE: Foley & Lardner
STREET: 1800 Diagonal Road, Suite 500
CITY: Alexandria
STATE: VAR SCFTWARE: Patentin Release #1.0, Version #1.25 CURRENT APPLICATION DATA: APPLICATION NUMBER: US/08/232,463 APPLICATION NUMBER: EP 91 114 300.6
FILING DATE: 26-AUG-1991
ATTORNEY/AGENT INFORMATION:
NAME: BENT, Stephen A.
REGISTRATION NUMBER: 29,768
REFERENCE/DOCKET WUMBER: 30472/114 IMMU
TELEPHONE: (703)836-9300
TELEFAX: (703)83-4109 FILING DATE:
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/07/935,313
FILING DATE: STATE: VA
COUNTRY: USA
ZIP. 22313-0299
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS 7218 base pairs TELER: (703)683-4109
TELEX: 899149
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS: TYPE: nucleic acid US-08-232-463-14 IMMEDIATE SOURCE STRANDEDNESS: TOPOLOGY: lin

DB 1; Length 7218;

4.5%; Score 48;

Query Match

```
974 AAGTGAGTGATTGGGTTAACTATTTGTCACCTTCACAAGTGGAAAGATTGTCAGCCTTAG 1033
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                913
                                                                                                                                                                                                                                                   854 AGGGAGTTGTGAAGGCTATCGCCGAGCTGTAGCTTCGAGAATCTGAAGAAGTTGGAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     914 TGAACAAGTCAAACAAGTCGATCAAGAACTTTGAGAATCGATTCTTGTTTCGGAAAGGAG
                                                                                                                                                                                                                                                                                                                                          734 TGAAGAGACCAGAGAAAGTCTTTTTTAAGGTACGAGGATCTCAAAGACGACATCGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                             794 CCAACTIGAAGAGGCTIGCAACTITCTIAGAGCTICCTITCACCGAAGAAGAAGGAACGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GENERAL INFORMATION:
APPLICANT: Litwack, Gerald
APPLICANT: Litwack, Gerald S.
APPLICANT: Alnewri, Emad S.
APPLICANT: Fernands-Alnewri, Teresa
TITLE OF INVENTION: IMMUNOPHILIN FKBP46 AND COMPOSITIONS FOR MAKING
TITLE OF INVENTION: AND
TITLE OF INVENTION: METHODS OF USING THE SAME
NUMBER OF SEQUENCES: 6
CORRESPONDENCES 16
CORRESPONDENCE ADDRESS:
ADDRESSEE: Woodcock Mashburn Kurtz Mackiewicz & No. 5861498ris
STREET: One Liberty Place - 46th floor
                                                                                                                                                                   DB 1; Length 7218;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1034 IGGATGACAAGTTAGGIGGATCTGGTCTCACTTTCAGGTTGA 1075
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1069 RRRATCGCAAGCTCCCTCGACCTGCAGCCTCGGAATTA 1028
                                                                                                                                                                ch
1 Similarity 5.0%; Pred. No. 1.6e-05;
20; Conservative 214; Mismatches 168;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: Windows 3.11
SOFTWARE: WordPerfect for Windows 6.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FILING DATE:
CLASSIFICATION: 424
PRIOR APPLICATION NDMBR: US 60/007,163
FILING DATE: 01-NOV-1995
CLASSIFICATION: 424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US/08/741,134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-08-741-134-5
; Sequence 5, Application US/08741134
; Patent No. 5861498
7218 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CURRENT APPLICATION DATA:
APPLICATION NUMBER: US
                    TYPE: nucleic acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ZIP: 19103
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Pennsylvania
USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Philadelphia
                                                       TOPOLOGY: linear
; IMMEDIATE SOURCE:
; CLONE: pTZgpt-F1s
US-08-232-463-14
                                                                                                                                                                                       Best Local Similarity
Matches 20; Conserva
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CITY: Phi
STATE: Pe
COUNTRY:
LENGTH:
                                                                                                                                                                          Query Match
```

```
Sequence 18033, Application US/09621976
Parent No. 6639063
GRIEAL INFORMATION:
APPLICANT: Dumas Milne Edwards, J.B.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US/08/403,866
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-08-403-866-11; Sequence 11, Application US/08403866; Patent No. 5643779; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NAME/KEY: misc_feature
LOCATION: 16
CTHER INFORMATION: n=a, g, c.or t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICATION NUMBER:
FILING DATE:
CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                            ORGANISM: Homo sapiens
                                                                                                         RESULT 5
US-09-621-976-18033/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-09-621-976-18033
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          910
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    585 GGATGAAATTATTGGCGACGACATGGACGACTTGGATGACGAAGAAGAAGAAGTTCG 644
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            251 YYMMYKGGRMYWWRGGMWXRAYWMYKKKSMWKGSCMWKRAWWARKTTYYTWAWYYTTYY 310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    525 AGACGAAGATGAAGACGCTGACATCTATGACAGTGAAGACTACGACTTGACCCCAGATGA 584
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CCAACGGAGATGTTCCCGATCTCTCGGGTCTAGCCAGTCCAAGAACGTTCGCAACCACT 505
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              311 KRMCCYYMRKTTYCMMMYSRWWRGSNWTARGAWMCYWWYYYMAARKKKYMWWAAARG 370
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TACCGTTCGGTTCCCTAAAGGAAACGATCGAGAAACCCCGGTGTGAAGGTCGTGTACTTGT 565
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     851 GAAAGGGAGTTGTGAAGGCTATCGCCGAGCTGTGTAGCTTCGAGAATCTGAAGAAGTTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                       DB 2; Length 1236;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match 3.2%; Score 34.2; DB 4; Length 474; Best Local Similarity 20.0%; Pred. No. 0.13; Matches 33; Conservative 67; Mismatches 65; Indels (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     566 GCCGGAACCCGTTTGACACTTCATCTTCGTGGCATTACACCA 610
                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
3.3%; Score 35.8; DB 2; Length 1
Best Local Similarity 51.6%; Pred. No. 0.07;
Matches 82; Conservative 0; Mismatches 77; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 18033, Application US/09621976
; Patent No. 6639063
; GENERAL INFORMATION:
; APPLICANT: Dumas Milne Edwards, J.B.
; APPLICANT: Giordano, J.Y.
; TITLE OF INVENTION: ESTS and Encoded Human Proteins.
; FILE REFRENCE: GENSET.054PR2
; CURRENT APPLICATION NUMBER: US/09/621,976
; CURRENT FILING DATE: 2000-07-21
; NUMBER OF SEQ ID NOS: 19335
; SOFTWARE: Patent.pm
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       911 AGGIGAACAAGICAAACAAGICGAICAAGAACITIGAGA 949
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      645 TATTGAAGAAGAAGAAGAAGATGAAGAAGATAATGA 683
ATTORNEY/AGENT INFOLL.

NAME: Defluca, Mark
REGISTRATION NUMBER: 33,229
REFERENCE/DOCKET UNMBER: TUU-2090
TELECOMMUNICATION INFORMATION:
TELEPHONE: 215-568-3100
TELEPHONE: 215-568-3100
INFORMATION FOR SED IN 00: 5: SEQUENCE CHARACTERISTICS:
LENGHT: 1236 base pairs
TYPE: nucleic acid
STRANDEDNESS: double
STRANDEDNESS: double
"NOOLOGY: DANA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LOCATION: 16 7 OTHER INFORMATION: n=a, g, c or t US-09-621-976-18033
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NAME/KEY: misc_feature
                                                                                                                                                                                                                                                                                                                                                       1..1236
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-09-621-976-18033
                                                                                                                                                                                                                                                                                                                                 NAME/KEY:
                                                                                                                                                                                                                                                                                                                                                         LOCATION:
                                                                                                                                                                                                                                                                                                                                                                           US-08-741-134-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    446
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     \dot{\delta}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       d
```

Š

 δ

```
260 KYCCMEKKRRRGKKRARSYKGSYKGGSYTYYKGGKKGGGTKGGKAMSKKGRRRAMTTTT 201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           593 CTTCGTGGCATTACACCAACAACATCAAATCCGAGTCAGTGAGCCCAGTCTTGCTAGACC 652
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       320 MYKRRGGKYMRRAARRWIWARRAAMYIWWTYMWKGSCMWKSMMMRKWRKYMWKCCYWWWR 261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                713 TGGGATACTGGAGAGAGAGCTTGAAGAGACCAGAGAAAGTCTTCTTTAAGGTACGAGG 772
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   773 ATCTCAAAGACGACATCGAGACCAACTTGAAGAGGCTTGCAACTTTCTTAGAGCTTCCTT 832
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        200 YYKKKKW----RSYWAARGKTTKKWAAMMMMCMAWYMRSMMYYYKKWAAAWKSCCCMARK 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     833 TCACCGAAGAAGAACGAAAGGGAGTTGTGAAGGCTATCGCCGAGCTGTGTAGCTTC 891
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     143 KGGSSGRWYWWKRRGTCMRGRRRWYSRRRWCWYYCTKGSMAMMSGKKRAAMCCSKYYY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  653 AAGCTITTGATCTGTATTGCCGGGGAGTGATCGGGTTTGGCCCGTTTTGGGAACACATGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: Ehilich, Stanislav
APPLICANT: Ehilich, Stanislav
APPLICANT: Ehilich, Stanislav
APPLICANT: Godon, Jean-Jacques
APPLICANT: Renault. Pierre
TITLE OF INVENTION: Nucleic acid coding for an alpha-acetolactate
TITLE OF INVENTION: Synthase from Lactococcus and its applications
NUMBER OF SEQUENCE: 16
COMPUTER: READABLE FORM:
MEDIUM TYPE: Ploppy disk
COMPUTER: IBM FC Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        э;
•
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
3.1%; Score 33.8; DB 4; Length 474;
Best Local Similarity 14.0%; Pred. No. 0.18;
Matches 42; Conservative 131; Mismatches 123; Indels
APPLICANT: Jobert, S. APPLICANT: Jobert, S. APPLICANT: Glordano, J.Y. TITLE OF INVENTION: ESTS and Encoded Human Proteins. FILE REPERENCE: GENSET.054PR2
CURRENT APPLICATION NUMBER: US/09/621,976
CURRENT FILING DATE: 2000-07-21
NUMBER OF SEQ ID NOS: 19335
SOFTWARE: Parent.pm
SEQ ID NO 18033
LENGTH: 474
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SOFTWARE: Patentin Release #1.0, Version #1.25 CURRENT APPLICATION DATA:
```

```
RESULT 8
US-09-302-620B-91/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQ ID NO 91
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ઠ
                           g
                                                               ð
                                                                                                qq
                                                                                                                                         ò
                                                                                                                                                                       dd
                                                                                                                                                                                                                à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       11170 ccrarceceaaecrecaaaaarcrreaaarreaaaarreaaaarreeeecaeaecacecereaec 11229
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  11110 crecadabririscreadeariricaricareacereadadeceseseseseadadradad 11169
                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   868 GCTATCGCCGAGCTGTAGCTTCGAGAATCTGAAGAAGTTGGAGGTGAACAAGTCAAAC 927
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            87 MAMWYNGWRRSYMAMWTRTWTGYAYYRSMMYWWRYRCWKKKAYYRKTTCYSSKGWTWWKR 146
                                                                                                                                                                                                                                                                                                                                                                                                                                                              867
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      475 CIAGCCAGTCCAAGAACGTTCGCAACCCACTTACCGTTCGGTTCCCTAAAGGAAACGATC 534
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           27 MYWKWYYMKIYWRWRRKKKKKAHWKYWKIWIWWWYWRYAMWGIYKKKAMCRIKIKKKKKKKK 86
                                                                                                                                                                                                                                                                                                                                                                                                                                                            808 CITGCAACTITCTTAGAGCTTCCTTTCACCGAAGAAGAGGAACGAAAGGGGAGTTGTGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               415 CTTGTACCTTTCTTCGAGTACAAGCTTTACGCCAACGGAGATGTTCCCGATCTCTCGGGT
                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                Score 33.8; DB 1; Length 12720;
Pred. No. 1.9;
0; Mismatches 62; Indels 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3.1%; Score 33.2; DB 4; Length 832;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: Dumas Milne Edwards, J.B.
APPLICANT: Jobert, S.
APPLICANT: Glordano, J.Y.
TITLE OF INVENTION: ESTS and Encoded Human Proteins.
FILE REFERENCE: GENSET.054PR2
CURRENT APPLICATION NUMBER: US/09/621,976
CURRENT FILING DATE: 2000-07-21
NUMBER OF SEQ ID NOS: 19335
SOFTWARE: Patent.pm
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 Similarity 8.6%; Pred. No. 0.44;
29; Conservative 157; Mismatches 150;
                                                                                                                                                                                                                                                                                                                                  Lactococcus lactis subsp. lactis
                                 30, 727
R: 20747/30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 2813, Application US/09621976
Patent No. 6639063
GENERAL INFORMATION:
ATTORNEY/AGENT INFORMATION
NAME: Goldman, Michael L.
REGISTRATION NUMBER: 30, 727
REFERENCE/DOCKET NUMBER: 2074
TELECOMMUNICATION INFORMATION:
TELEFAX: (716) 263-1487
TELEFAX: (716) 263-1487
TELEFAX: 974450 (WUT)
INFORMATION FOR SEQ ID NO: 11:
SEQUENCE CHARACTERISTICS:
LENGTH: 12720 base pairs
TYPE: nucleic acid
STRANDEDNESS: double
                                                                                                                                                                                                                                                                                                                                                                                          3.1%;
                                                                                                                                                                                                                                                            DNA (genomic)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      11230 AATGCCATTCACA 11242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                928 AAGTCGATCAAGA 940
                                                                                                                                                                                                                                                                                                                                                                                          Query Match 3.15
Best Local Similarity 53.45
Matches 71; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TYPE: DNA
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                            linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity
Matches 29; Conserv
                                                                                                                                                                                                                                                                           õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ; FEATURE:
; NAME/KEY: CDS
; LOCATION: 235..399
US-09-621-976-2813
                                                                                                                                                                                                                                                                                               ANTI-SENSE: NO
                                                                                                                                                                                                                                                                                                               ORIGINAL SOURCE
ORGANISM: La
                                                                                                                                                                                                                                                            MOLECULE TYPE:
                                                                                                                                                                                                                                                                           HYPOTHETICAL:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 7
US-09-621-976-2813
                                                                                                                                                                                                                                          TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQ ID NO 2813
LENGTH: 832
                                                                                                                                                                                                                                                                                                                                                      US-08-403-866-11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         à
```

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3718 idecedeirererredezakakakarirerearidakererrekkakarerekakarekerreg 3659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3658 rccaadrocricritorridricriddacdccaagridarcaagcccdrgorcaacritorda 3599
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          943 TITGAGAAICGAIICIIGIIITCGGAAAGGAGAAGIGAGIGAGIGAIIGGGIIAACIATITGICA 1002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Gleson, Martin
TITLE OF INVENTION: CYTOCHROME P450 MONOCXYGENASE AND NADPH CYTOCHROME P450
TITLE OF INVENTION: CYTOCHROME P450 GENES AND PROTEINS RELATED TO THE OMEGA
TITLE OF INVENTION: HYDROXYLASE COMPLEX OF CANDIDA TROPICALIS AND METHODS
TITLE OF INVENTION: RELATING THERETO
FILE REFERENCE: 1010-16.seq
CURRENT APPLICATION NUMBER: US/09/302,620B
CURRENT FILING DATE: 1999-04-30
NUMBER OF SEQ ID NOS: 109
SOFTWARE: PATENTIN VET: 2.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              883 TGTAGCTTCGAGAATCTGAAGAAGTTGGAGGTGAACAAGTCAAACAAGTCGATCAAGAAC 942
                             207 SAKRCCYSCSWGAMSWKYMWRWRWRWRGAMATGAGMKAWRASCMMRKKYAGKSKTSYKSWMW 266
                                                                                                                                                                                 655 GCTTTTGATCTGTATTGCCGGGAGTGATCGGGTTTGGCCCGTTTTGGGAACACATGTTG 714
                                                                                                                                                                                                                 535 GAGAAACCCGGTGTGAAGGTCGTGTACTTGTGCCGGAACCCGTTTGACACATTCATCTT 594
                                                                                        595 TCGTGGCATTACACCAACAACATCAAATCCGAGTCAGTGAGCCCAGTCTTGCTAGACCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ..
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 4; Length 3910;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                  715 GGATACTGGAGAGAGCTTGAAGAGACCAGAGAAA 750
                                                                                                                                                                                                                                                                                                                  327 SMWWRRWYYTMMKWWKYAWARAAWRWAMWWAWRR 362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3.0%; Score 32.4; DE 54.1%; Pred. No. 2.6; ive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 91, Application US/09302620B
Patent No. 6331420
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Madduri, Krishna M.
Cornett, Cathy A.
Brenner, Alfred A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TYPE: DNA; ORGANISM: Candida tropicalis
US-09-302-620B-91
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            66; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Wilson, C. Ron
APPLICANT: Craft, David L.
APPLICANT: Eirich, Dudley
APPLICANT: Eshoo, Mark
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Tang, Maria
Loper, John C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Best Local Similarity Matches 66; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1003 CC 1004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3598 CC 3597
```

```
Streptococcus pneumoniae Polynucleotides and Sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                                     3718 TGCGGCTCTGTGTTGCCAAAGAACTTGTCGATGAACTCGTTGAAGATGTCGATGACTTCG 3659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3658 TCCAAGTGCTGCTTGTTGTTCTGGAACGCCAAGTTGATCAAGCCCGTGGTCAACTTCTCA 3599
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: Lalgudi, Raghunath V.
APPLICANT: Lalgudi, Raghunath V.
APPLICANT: Ito, Laura Y.
APPLICANT: Sherman, Bradley K.
TITLE OF INVENTION: POLYNUCLEOTIDES AND POLYPEPTIDES DERIVED FROM CORN EAR FILE REFERENCE: PL-0017 US
CURRENT APPLICATION NUMBER: US/09/313,294A
CURRENT FILING DATE: 1999-05-14
NUMBER OF SEQ ID NOS: 7600
SOFTWARE: PERL PROGRAM
                                                                                                                                                                                                                                                                                                                                                                                                      883 TGTAGCTTCGAGAATCTGAAGAAGTTGGAGGTGAACAAGTCAAACAAGTCGAGTCAAGAAC 942
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     574 CCGTTTGACACATTCATCTTCGTGGCATTACACCAACAACATCAAATCCGAGTCAGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                   Query Match 3.0%; Score 32.4; DB 4; Length 3910; Best Local Similarity 54.1%; Pred. No. 2.6; Matches 66; Conservative 0; Mismatches 56; Indels 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match 3.0%; Score 32.2; DB 4; Length 285; Best Local Similarity 57.4%; Pred. No. 0.46; Matches 58; Conservative 0; Mismatches 43; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         634 AGCCCAGTCTTGCTAGACCAAGCTTTTGATCTGTATTGCCG 674
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         49 AGCACAATCTGGTAAGCATATCTTTTATGTATGCATTTCTG 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ; NAME/KEY: misc feature
; OTHER INFORMATION: Incyte ID No. 6476212 700352328H1
US-09-313-294A-6743
TITLE OF INVENTION: THERETO
FILE REFERENCE: M6368 (1010-35)
CURRENT APPLICATION NUMBER: US/09/912,161
CURRENT FILING DATE: 2001-07-24
NUMBER OF SEQ ID NOS: 45
SOFTWARE: Patentin version 3.1
SEQ ID NO 14.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-09-313-294A-6743/c
; Sequence 6743, Application US/09313294A
; Patent No. 6476212
; GENERAL INFORMATION;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 115, Application US/08961527
Patent No. 6420135
                                                                                                                                                                                                    TYPE: DNA; ORGANISM: Candida tropicalis
US-09-912-161-14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GENERAL INFORMATION:
APPLICANT: Charles Kunsch
TITLE OF INVENTION: Strept
NUMBER OF SEQUENCES: 391
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ORGANISM: Zea mays
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1003 CC 1004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ¢¢ 3597
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 11
US-08-961-527-115/c
                                                                                                                                                                               LENGTH: 3910
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQ ID NO 6743
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3598
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FEATURE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                   원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              à
```

```
3207 igiractitraagcaatrigaagagcciggricraaaggagagaaaaccagrigracaarrac 8148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 883 IGTAGCTICGAGAAICTGAAGAAGTIGGAGGTGAACAAGTCAAAGAAGAAGGATGAAGAAG 942
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8147 ciccrcaagccraiaticciarrccaardggaarigaaaaaadgcraarrigarrcr 8090
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 7, Application US/09013067A
Sequence 7, Application US/09013067A
Sequence 7, Application US/09013067A
Setent No. 6057144
GENERAL INFORMATION;
APPLICANT: HAMATSU, SHIOKA
APPLICANT: HAMATSU, SHIOKA
APPLICANT: HAXASHI, KIYOSHI
TITLE OF INVENTION: CHITIN DEACETYLASE GENE, VECTOR CONTAINING
TITLE OF INVENTION: SAID GENE AND TRASFORMANT
NUMBER OF SEQUENCES: 8
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
ADDRESSEE: PELO
ADDRESSEE: PELO
STREET: 1755 S. JEFPERSON DAVIS HIGHWAY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB 4; Length 11303;
                                                                                                                                                    COMPUTER EADABLE FORM:
MEDIUM TYPE: Diskette, 3.50 inch, 1.4Mb storage COMPUTER: Diskette, 3.50 inch, 1.4Mb storage OPENATING SYSTEM: MSDOS version 6.2 SOFTWARE: ACTI Text ROFENER APPLICATION DATA:
RPPLICATION NUMBER: US/08/961,527
FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SOFTWARE: Patentin Release #1.0, Version #1.30 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ch 2.9%; Score 31.6; D
1 Similarity 54.2%; Pred. No. 11;
64; Conservative 0; Mismatches
    SSEE: Human Genome Sciences, Inc.
T: 9410 Key West Avenue
Rockville
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REFERENCE DOCKET NUMBER: 9834

TELECOMMUNICATION INFORMATION:
TELEFAN: (301) 309-8504

TELEFAN: (301) 309-8504

TELEFAN: (301) 309-851

INFORMATION FOR SEQ ID NO: 115:
SEQUENCE CHARACTERISTICS:
LENGTH: 11303 base pairs
TYRE: nucleic acid
STRANDEDNESS: double
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYGTEM: PC-DOS/MS-
SOFTWARE: PatentIn Release #
                                                                                                                                                                                                                                                                                                                                                                                                                                                            NAME: Brookes, A. Anders
REGISTRATION NUMBER: 36,373
                                                                                                                                                                                                                                                                                                                                                                                                    FILING DATE: ATTORNEY/AGENT INFORMATION: NAME: Brookes, A. Anders
                                                                                                                                                                                                                                                                                                                                         CLASSIFICATION: 424
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Best_Local Similarity
Matches 64; Conserv
                                                                                       Maryland
: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ARLINGTON
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               22202
                   ADDRESSEE:
STREET: 94
                                                                                                                                      20850
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     , TOPOLOGY:
US-08-961-527-115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STATE: V?
                                                                 CITY: Roc
STATE: MA
COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 JS-09-013-067A-7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
```

ö

913

```
GENERAL INFORMATION:
APPLICANT: Philibert, Robert A.
APPLICANT: Philibert, Robert A.
APPLICANT: Ginns, Edward I.
APPLICANT: Delisi, Lynn
TITLE OF INVENTION: IDENTIFICATION OF POLYMORPHISMS IN THE PCTG4 REGION OF XQ13
TITLE OF INVENTION: IDENTIFICATION OF POLYMORPHISMS IN THE PCTG4 REGION OF XQ13
TITLE OF INVENTION: 1DENTIFICATION NUMBER: US/09/491,356C
CURRENT APPLICATION NUMBER: PCT/US99/09365
PRIOR APPLICATION NUMBER: 60/083,465
PRIOR APPLICATION NUMBER: 60/083,465
PRIOR PILING DATE: 1999-04-29
NUMBER OF SEQ ID NOS: 24
SOFTWARE: PATENTIN VERSION 3.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 359, Application US/09107532A
Patent No. 6583275
GENERAL INFORMATION:
APPLICANT: Lynn A Doucette-Stamm and David Bush
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO
FITLE OF INVENTION: ENTEROCOCCUS FAECIUM FOR DIAGNOSTICS AND THERAPEUTICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          4782 GCTCATCAATGGGACATTGGCTGCAGACATGTCTAGCATCTCGCAAGGTAGCATGGAGGA 4841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  777 CAAAGACGACATCGAGACCAACTTGAAGAGGCTTGCAACTTTCTTAGAGCTTCCTTTCAC 836
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 837 CGAAGAAGAAGGAACGAAAGGGAGTTGTGAAGGCTATCGCCGAGCTGTGTAGCTTCGAGAA 896
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4842 AAACAAGCGTGCATACATGAACCTGGCGAAGAAGTTGCAGAAGGAGGTTGGGGGAGCG 4898
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         897 TCTGAAGAAGTTGGAGGTGAACAAGTCAAACAAGTCGATCAAGAACTTTGAGAATCG 953
                                                                                                                                                                                                                                                                                                                                                                                      854 restrescencecrescentarerenances as a restrescentarios de la restrescencia de la restrescencia de la restrescencia de la restrescencia de la restrescencia de la restrescencia de la restrescencia de la restrescencia de la restrescencia de la restrescencia de la restrescencia de la restrescencia de la restrescencia de la restrescencia de la restrescencia de la restrescencia de la restrescencia de la restrescencia de la restrescencia de la restrescencia de la restrescencia de la restrescencia de la restrescencia de la restrescencia de la restrescencia de la restrescencia de la restrescencia de la restrescencia de la restrescencia de la restrescencia del restrescencia de la restrescencia del restrescencia de la restrescencia de la restrescencia de la restrescencia del restrescencia del restrescencia de la restrescencia de la restrescencia de la restrescencia de la restrescencia de la restrescencia de la restrescencia de la restrescencia de la restrescencia de la restrescencia de la restrescencia de la restrescencia de la restrescencia de la restrescencia de la restrescencia de la restrescencia de la restrescencia de la restrescencia de la restrescencia de la restrescencia de la restrescencia de la restrescencia de la restrescencia de la restrescencia de la restrescencia de la restrescencia de la restrescencia de la restrescencia de la restrescencia de la restrescencia de la restrescencia de la restrescencia del restrescencia de la restrescencia del restrescencia de la restrescencia de la restrescencia de la restrescencia de la restrictura de la restrictura del restrictura del restrictura del restrictura del restrictura de la restrictura de la restrictura del restrictura de la restrictura del restrictura del restrictura de la restrictura del restrictura del restrictura de la restrictura del restrictura del restrictura del restrictura de la restrictura del restrictura de la restrictura del restrictura del restrictura del restrictura de la restrictura del restrictura del restrictura del restrictura del restrictura 
                                                                                                                                                                                                                                                                    863 TGAAGGCTATCGCCGAGCTGTGTAGCTTCGAGAATCTGAAGAAGTTGGAGGTGAACAAGT
                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ·
0
                                                                                                                                     ö
2.9%; Score 31.4; DB 4; Length 2572; llarity 53.7%; Pred. No. 4.3; Conservative 0; Mismatches 56; Indels 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match 2.9%; Score 31.4; DB 4; Length 6794; Best Local Similarity 48.6%; Pred. No. 8.8; Matches 86; Conservative 0; Mismatches 91; Indels 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CORRESPONDENCE ADDRESS:
ADDRESSEE: GENOME THERAPEUTICS CORPORATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STREET: 100 Beaver Street
CITY: Waltham
STATE: Massachusetts
COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 2, Application US/09491356C Patent No. 6566061
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NUMBER OF SEQUENCES: 7310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TYPE: DNA
ORGANISM: Homo sapiens
                                                                         Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             983 A 983
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              974 À 974
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 15
US-09-107-532A-359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 14
US-09-491-356C-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LENGTH: 6794
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-09-491-356C-2
             Query Match
Best Local S:
Matches 65,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQ ID NO 2
                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   338 CCATCCTTAACCGTCACCGGTTTGAICCGGTTGCCTCGAGTACCAACCACCCCTCTTTTCA 397
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     107 CCATCCTCCAGTGCACCCAGCCTGGTCTGGTTGCTCTGACCTACGACGACGGTCCTTTCA 166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    398 CTICCAACCCICATGACCTIGTACCTITCTTCGAGTACAAGCTTTACGCCAAC 450
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      167 cerreacecreacerecreacerericas acada a concara de de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca de concerca d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match 2.9%; Score 31.4; DB 3; Length 756; Best Local Similarity 54.9%; Pred. No. 1.8; Matches 62; Conservative 0; Mismatches 51; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                THILE OF INVENTION: 98 Human Secreted Proteins THILE OF INVENTION: 98 Human Secreted Proteins THILE OF INVENTION: 98 Human Secreted Proteins CURRENT APPLICATION NUMBER: US/09/489, 847 CURRENT FILING DATE: 2000-01-29 EARLIER FILING DATE: 1999-07-29 EARLIER FILING DATE: 1999-07-29 EARLIER FILING DATE: 1998-07-30 EARLIER APPLICATION NUMBER: 60/095,486 EARLIER FILING DATE: 1998-08-05 EARLIER FILING DATE: 1998-08-05 EARLIER FILING DATE: 1998-08-05 EARLIER FILING DATE: 1998-08-05 EARLIER FILING DATE: 1998-08-06 EARLIER FILING DATE: 1998-08-06 EARLIER APPLICATION NUMBER: 60/095,455 EARLIER FILING DATE: 1998-08-06 EARLIER APPLICATION NUMBER: 60/095,455 EARLIER FILING DATE: 1998-08-06 EARLIER FILING DATE: 1998-08-06 EARLIER FILING DATE: 1998-08-06 EARLIER FILING DATE: 1998-08-06 EARLIER FILING DATE: 1998-08-06 EARLIER FILING DATE: 1998-08-06 EARLIER FILING DATE: 1098-08-06 EARLIER FILING DA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MOLECULE TYPE: other nucleic acid
DESCRIPTION: /desc = "PCR REACTION PRODUCTS"
ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CANDANISM: Colletotrichum lindemuthianum STRAIN: ATCC 56676
US-09-013-067A-7
APPLICATION NUMBER: US/09/013,067A
FILING DATE: 0.1-7AN-1998
CLASSIFICATION: 45.
PRIOR APPLICATION DATA:
APPLICATION DATA:
FILING DATE: 0.2-DEC-1997
ATTORNEY/AGENT INFORMATION:
NAME: 00LON, NORMANE: 24,618
REGISTRATION NUMBER: 24,618
REFERENCE/DOCKET NUMBER: 8361-0002-0
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION OFFORTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ; LOCATION: (2527)
; OTHER INFORMATION: n equals a,t,g, or c
US-09-489-847-44
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 44, Application US/09489847
Patent No. 6476195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  INFORMATION FOR SEQ ID NO: 7
SEQUENCE CHARACTERISTICS:
LENGTH: 756 base pairs
TYPE: nucleic acid
STRANDENNESS: single
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TYPE: DNA ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FEATURE:
NAME/KEY: SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SOFTWARE: P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ઠે
```

ö

```
ZIP: 02154
COMPUTER: READABLE PORM:
MEDIUNI TYPE: CUPRON 1509660
COMPUTER: PERADABLE PORM:
PREDICATION NUMBER: US/09/107,532A
PRIOR APPLICATION NUMBER: US/09/107,532A
PRIOR APPLICATION NUMBER: US/09/107,532A
FILING DATE: 30-Jun-1998
PRIOR PREDICATION NUMBER: US/05/5171
FILING DATE: 30-Jun-1998
PRIOR PREDICATION NUMBER: US/05/5171
ATTORNEY/DATE: 10-Jun-1998
PRIOR PREDICATION NUMBER: US/05/5171
FILING DATE: 10-Jun-1998
PRIOR PROPERTY INCOMPATION: US/05/5171
FILING DATE: 10-Jun-1998
PRIOR PROPERTY INCOMPATION: US/05/5171
FILING DATE: 10-Jun-1998
PRIOR PROPERTY INCOMPATION: US/05/5171
FILING DATE: 10-Jun-1998
PRIOR PROPERTY INCOMPATION: US/05/5171
FILING DATE: 10-Jun-1998
PRIOR PROPERTY INCOMPATION: US/05/5171
FILING DATE: 10-Jun-1998
PRIOR PROPERTY INCOMPATION: US/05/5171
FILING DATE: 10-Jun-1999
PRIOR PROPERTY INCOMPATION: US/05/5171
FILING DATE: 10-Jun-1999
PRIOR PROPERTY INCOMPATION: US/05/5191
FILING DATE: 10-Jun-1999
PRIOR PROPERTY INCOMPATION: US/05/5191
FILING DATE: 10-Jun-1999
PRIOR PROPERTY INCOMPATION: US/05/98
PRIOR PROPERTY INCOMPATION: US/05/98
PRIOR PROPERTY INCOMPATION: US/05/98
PRIOR PROPERTY INCOMPATION: US/05/98
PRIOR PROPERTY INCOMPATION: US/05/98
PRIOR PROPERTY INCOMPATION: US/05/98
PRIOR PROPERTY INCOMPATION: US/05/98
PRIOR PROPERTY INCOMPATION: US/05/98
PRIOR PROPERTY INCOMPATION: US/05/98
PRIOR PROPERTY INCOMPATION: US/05/98
PRIOR PROPERTY INCOMPATION: US/05/98
PRIOR PROPERTY INCOMPATION: US/05/98
PRIOR PROPERTY INCOMPATION: US/05/98
PRIOR PROPERTY INCOMPATION: US/05/98
PRIOR PROPERTY INCOMPATION: US/05/98
PRIOR PROPERTY INCOMPATION: US/05/98
PRIOR PROPERTY INCOMPATION: US/05/98
PRIOR PROPERTY INCOMPATION: US/05/98
PRIOR PROPERTY INCOMPATION: US/05/98
PRIOR PROPERTY INCOMPATION: US/05/98
PRIOR PROPERTY INCOMPATION: US/05/98
PRIOR PROPERTY INCOMPATION: US/05/98
PRIOR PROPERTY INCOMPATION: US/05/98
PRIOR PROPERTY INCOMPATION: US/05/98
PRIOR PROPERTY INCOMPATION: US/05/98
PRIOR PROPERTY INCOMPATION: US/05/98
PRIOR PROPERTY INCOMPATION: US/05/98
PRIOR PROPERTY INCOMPATION: US/05/98
PRIOR PROPERT
```

Search completed: August 17, 2004, 05:09:07 Job time : 122 secs

Cash Ande Blank (Uspa)

•

us-10-019-931-1.rnpb

```
GenCore version 5.1.6
Copyright (c) 1993 - 2004 Compugen Ltd.
```

OM nucleic - nucleic search, using sw model

August 17, 2004, 05:07:11; Search time 1836 Seconds (without alignments) 2878.222 Million cell updates/sec l atggctacctcaagcatgaa.....gtctcactttcaggttgagc 1077 3225727 seqs, 2453303834 residues IDENTITY NUC Gapop 10.0 , Gapext 1.0 US-10-019-931-1 1077 Title: Perfect score: Sequence: Scoring table: Searched: Run on:

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries Minimum DB seq length: 0 Maximum DB seq length: 200000000

Total number of hits satisfying chosen parameters:

6451454

| Cgn2_6/ptodata/2/pubpna/USO7 PUBCOMB.seq:*
| Cgn2_6/ptodata/2/pubpna/USO7 PUBCOMB.seq:*
| Cgn2_6/ptodata/2/pubpna/USO6 PUB Seq:*
| Cgn2_6/ptodata/2/pubpna/USO6_PUBCOMB.seq:*
| Cgn2_6/ptodata/2/pubpna/USO6_PUBCOMB.seq:*
| Cgn2_6/ptodata/2/pubpna/DSO6_PUBCOMB.seq:*
| Cgn2_6/ptodata/2/pubpna/USO9_NEW_PUB.seq:*
| Cgn2_6/ptodata/2/pubpna/USO9_NEW_PUB.seq:*
| Cgn2_6/ptodata/2/pubpna/USO9_PUBCOMB.seq:*
| Cgn2_6/ptodata/2/pubpna/USO9_PUBCOMB.seq:*
| Cgn2_6/ptodata/2/pubpna/USO9_PUBCOMB.seq:*
| Cgn2_6/ptodata/2/pubpna/USO9_NEW_PUB.seq:*
| Cgn2_6/ptodata/2/pubpna/USO0_NEW_PUB.seq:*
| Cgn2_6/ptodata/2/pubpna/USO0_NEW_PUB.seq:*
| Cgn2_6/ptodata/2/pubpna/USO0_NEW_PUB.seq:*
| Cgn2_6/ptodata/2/pubpna/USO0_NEW_PUB.seq:*
| Cgn2_6/ptodata/2/pubpna/USO0_NEW_PUB.seq:* Published Applications NA:* Database :

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

STIMMADIES

		d¥			SUMMAKIES	
Result No.	Score	Query	Query Match Length DB	DB	ID	Description
-	355.4	33.0	1311	13	US-10-424-599-58871	Seguence 58871. A
7	229.2	21.3	981	σ	US-09-938-842A-2049	Sequence 2049, Ap
m	229.2	21.3	981	11	US-09-938-842A-2049	Sequence 2049, Ap
4	221.8	20.6	787	13	US-10-424-599-82242	Sequence 82242, A
ιΩ	219.2	20.4	966	6	US-09-938-842A-1027	Sequence 1027, Ap
9	219.2	20.4	966	11	US-09-938-842A-1027	Sequence 1027, Ap
7	200.8	18.6	1041	17	US-10-437-963-55857	Sequence 55857,
ω υ	184.2	17.1	271990	15	US-10-195-144-87	Sequence 87, Appl
o 0	184.2	17.1	271990	16	US-10-345-072-87	87,
10	166	15.4	2067	15	US-10-195-144-80	80,
11	166	15.4	2067	16	US-10-345-072-80	80,
12	161.8	15.0	1077	17	US-10-437-963-55524	5552
13	157	14.6	654	17	US-10-021-323-11330	Sequence 11330,
14	155	14.4	1068	17	US-10-437-963-94656	Sequence 94656,

Sequence 331, App	28,	e 3. App	equence 27879;	Sequence 11419, A	m	27795,	96500,	e 5134	e 443,	e 113,	п П	e 5499	e 7385	5007	a 379,	đ١	e 1003,	3 75177	329,	56891	72606	76496	equence ,	٠.	H	0)	a)			a)
US-10-25	US-10-437-96	US-10-259-194A-	US-10-437-96	US-10-021-323-1141	US-10-425-114	US-10-425-114-277	US-10-437-963	US-10-437-963-51	US-10-259-165-44	US-10-259-16	US-10-259-194A-1	US-10-437-963-5499	US-10-437-963-	US-10-437-963-50	US-10-259-194A-37	US-10-259-194A-1	US-10-260-238	US-10-437-963-7	US-10-259-19	US-10-437-963-56	US-10-437-963-7260	US-10-437-963-76	US-10-437-963-7261	US-10-021-323-14	19-854-12	US-10-259-194A-	US-10-437-963-5	US-10-437-963-317	US-10-437-963-567	US-10-437-963-49745
Н	-	Н	Н	Н	Н	Н	Н	Н	Н	Н	16	_	Н	_	٦	Н	Н	۲	Н	Н	17	Н	-	17	σ	Н	17	Н	-1	17
1041	1041	1017	1017	610	1403	1526	101	1056	984	987	1050	1050	1021	1047	1047	1461	1461	1482	1032	1355	1033	2496	1878	528	1192	462	912	1269	629	948
13.7	13.7		13.2	•	12.6	12.6		12.2	•	11.7	11.7	٠.	11.3		10.9	•	•		•	٠	10.1		9.9		•	9.1		8.2		8.2
147.4	147.4	ä	41.	138.2	135.8	135.8	131.8	131.2	126	126	125.8	125.8	121.8	118.6	117	112.8	112.8	110.6	108.6	108.6	108.4	107.6	106.8	100.8	100.8	86		88.8	œ	
15	16	17	18	c 19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45

ALIGNMENTS

```
US-10-424-599-58871

i Sequence 58871.

Sequence 58871.

Sequence 58871.

Sequence 58871.

Publication No. US20040031072A1

GENERAL INFORMATION:

APPLICANT: La Rosa Thomas J

APPLICANT: La Rosa Thomas J

APPLICANT: Cou Yihua

TITLE OP INVENTION: Soy Nucleic Acid Molecules and Other Molecules Associated With

TITLE OP INVENTION: Plants and Uses Thereof for Plant Improvement

TITLE OF INVENTION: 1802.003-04-28

CURRENT APPLICATION NUMBER: US/10/424,599

CURRENT FILING DATE: 2003-04-28

NUMBER OF SEQ ID NOS: 285684

ENDICH: 1311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ..
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match 33.0%; Score 355.4; DB 13; Length 1311; Best Local Similarity 61.4%; Pred. No. 1.3e-107; Matches 591; Conservative 0; Mismatches 366; Andels 6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        111 AGAAGATGAAGGCTAAGCTGCGAGTTCCAAGAGATGTTGGATTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ; OTHER INFORMATION: Clone ID: PAT_MRT3847_24172C.1 US-10-424-599-58871
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TYPE: DNA
ORGANISM: Glycine max
FEATURE:
LOCATION: (1)..(1311)
OTHER INFORMATION: unsure at all n locations
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
```

171 AGGAIGGAGAACTCGTTACCTTTACCTATTCCAAGGGTTTTGGTGCCAAGCCAAAGAGAT 230

à

ų,

Gaps

18;

Indels Length

213

351 273 411

231 153 291 447 591 507

531

567 711

651

```
GAAGATGAAGGCTAAGCTGCGAGTTCCAAGAGATGTTGGATTCTCTTCTAAGGAGAGA 171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAAGCGGTTGAAGCGTTTTGTGAAGGGAAGTTTATAGGTGGACCCTTTGGGGATCATATA 627
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GACCTTGTACCTTTCGAGTACAAGCTTTACGCCAACGGAGATGTTCCCCGATCTCTCG 471
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         crrciridigecericingaagagarraciaeagreeceaaarri---eaarriciee 387
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GGAGATGAAGATCTGCACAAGAAGAAGAAGAGCTCTGATCTCTTCTTCTTCTAAAGAAGAAA 93
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gripada de concentra de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda del companda de la companda del companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda del companda de la companda del companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda del companda del companda de la companda de la companda de la companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del compa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TCTTCGTGGCATTACACCAACAACATCAAAATCCGAGTCAGTGAGCCCAGTCTTGCTAGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CAAGCTTTTGATCTGTATTGCCGGGAGTGATCGGGTTTTGGCCCGTTTTGGGAACACATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TTCACCGAAGAAGAAGGAAAGGGAGTTGTGAAGGCTATCGCCGAGCTGTAGCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TTTATTGAAGAAGAAGAA-----GTGAGAGATTGTGAAGTTGTGTAGCTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GGTCTAGCCAGTCCAAGAACGTTCGCAACCCACTTACCGTTCGGTTCCCTAAAGGAAACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GATCTCAAAGACGACATCGAGACCAACTTGAAGAGGCTTGCAACTTTCTTAGAGCTTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              688 GAGCTAAAGAAGCAGACCGAAGTTGAGATGAAGCGGATCGCGGAGTTCTTGGAATGTGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATCGAGAAACCCGGTGTGAAGGTCGTGTACTTGTGCCGGAACCCGTTTGACACATTCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        recritaridecarararaceracerecercardaaaaacerecararecaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TTGGGATACTGGAGAGAGCTTGAAGAGAGACCAGAGAAAGTCTTCTTTAAGGTACGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CACCGGTTTGATCCGGTTGCCTCGAGTACCAACCACCTCTTTTCACTTCCAACCCTCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CAAGCCATCATGTCTTTCCAAAAACATTTTCCAATCCCTCGAAAACGACGTCGTTCTCGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CAAGGAATCTTGATCTGCCAAAAAGGCTTTGAAGCTAAAGATTCCGACATTATCCTCGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACCATACCTAAATCCGGTACAACCTGGCTAAAAGCTTTAACTTTCACCATCCTTAACCGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 229.2; DB 9;
Pred. No. 2.3e-65;
0; Mismatches 413;
TITLE OF INVENTION: SAME, AND METHOUS OF USER FILE REFRENCE: SCRIP1300-3 CURRENT APPLICATION NUMBER: US/09/938,642A CURRENT FILING DATE: 2001-08-24 PRIOR APPLICATION NUMBER: US 60/227,866 PRIOR FILING DATE: 2000-08-24 PRIOR APPLICATION NUMBER: US 60/264,647 PRIOR FILING DATE: 2001-01-16 PRIOR FILING DATE: 2001-01-16 PRIOR FILING DATE: 2010-01-16 PRIOR FILING DATE: 2010-01-16 PRIOR FILING DATE: 2010-01-16 PRIOR FILING DATE: 2010-01-16 PRIOR FILING DATE: 2010-01-16 PRIOR FILING DATE: 2010-01-16 PRIOR FILING DATE: 2010-01-16 PRIOR FILING DATE: 2010-01-16 PRIOR FILING DATE: 2010-01-16 PRIOR FILING DATE: 2010-01-16 PRIOR FILING DATE: 2010-01-16 PRIOR FILING DATE: 2010-01-16 PRIOR FILING DATE: 2010-01-16 PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                  TYPE: DNA
ORGANISM: Arabidopsis thaliana
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
21.3%;
Best Local Similarity 54.9%;
Matches 525; Conservative C
                                                                                                                                                                                                                                                                                                                                                                                                                                        US-09-938-842A-2049
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     331
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  448
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            34
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              94
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            154
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        214
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      274
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           472
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 388
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         532
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           508
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       652
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            568
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               712
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        628
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              772
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  748
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 352
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            412
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        592
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            832
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ∂
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ठे
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Б
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 2
US-09-388-842A-2049
US-09-388-842A-2049
US-09-388-842A-2049
Sequence 2049, Application US/09938842A
Patent No. US200201603781
GENERAL INFORMATION
APPLICANT: Harper, Jeff
APPLICANT: Kreps, Joel
APPLICANT: Wang, Xun
APPLICANT: The POPEN CONTAINING
TITLE OF INVENTION: STRESS-REGULATED GENES OF PLANTS, TRANSGENIC PLANTS CONTAINING
TITLE OF INVENTION: STRESS-REGULATED GENES OF PLANTS, TRANSGENIC PLANTS CONTAINING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1066
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1006
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1064
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  946
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                586
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               646
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          706
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   764
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      766
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               824
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    826
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             884
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      886
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            944
                                                                       290
                                                                                                                          286
                                                                                                                                                                                   350
                                                                                                                                                                                                                                            346
                                                                                                                                                                                                                                                                                                 410
                                                                                                                                                                                                                                                                                                                                                       406
                                                                                                                                                                                                                                                                                                                                                                                                                464
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      466
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            524
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 526
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          584
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      644
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 704
              226
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CCAAATGITGGTTATTGGAAGGAGTATAGCTAGGCCTAGTAAGGTTTTGTTCTTGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1007 TGAAATGGGTGAAAGTTATGGCAAATTATGGAAGAAAAGTTAAGTGGGTCAGGCTTGTC
              cacaatriccaaatcacctaccactreecteaaaccretcacctrreccatrercaatce
                                                                                                                                                                                                                                                                                                                                                       347 ccáracrcaragiarcacraciacarcarcarcacarcaricirriscrirácrirárarcerca
                                                                                                                                                                                                                                                                                                                                                                                                                                              TCTCTCGGGTCTAGCTCCAAGAACGTTCGCAACCCCACTTACCGTTCGGTTCCCTAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CAAGTCCATCAAGGAGTCCAATAGTAGAATATTTATATGTAGGAACCCACTTGACAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATTCATCTTCGTGGCATTACACCAACAACAATCAAATCCGAGTCAGTGAGCCCAGTCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GCTAGACCAAGCTTTTGATCTGTATTGCCGGGAGTGATCGGGTTTGGCCCGTTTTGGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       actagocoaagcrititgaaagfartigcaaaggaaraaragggritiggrccaactiggga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACACATGTTGGGATACTGGAGAGAGGCTTGAAGAGACCAGAGAAAGTCTTCTTTTAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GTACGAGGATCTCAAAGACGACATCGAGACCTTGAAGAGGCTTGCAACTTTCTTAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GCTTCCTTTCACCGAAGAAGAAGGAACGAAAGGGAGTTGTGAAGGCTATCGCCGAGCTGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   827 ATGICCITICACTICGGAGGAGAGGIGATGGGACTATIGAGAGCATAATGAGCTATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TAGCTTCGAGAATCTGAAGTTGGAGGTGAACAAGTCAAACAAGTCGATCAAGAACTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TGAGAATCGATTCTTTCGGAAAGGAGAAGTGAGTGATTGGGTTAACTATTGTCACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                rcacacantricitaticceaaaccreaaarceaaaricceaariicce
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TTCACAAGTGGAAAGATTGTCAGCCTTAGTGGATGACAAGTTAGGTGGATCTGGTCTCAC
                                                                                                                    CCAAGCAATAATCACTTTTCAGAAGCACTTCCAAGCTAAAGACAGTGATGTTATTGTGGC
                                                                                                                                                                                      CACCATACCTAAATCCGGTACAACCTGGCTAAAAGCTTTAACTTTCACCATCCTTAAACCG
                                                                                                                                                                                                                                                                                                    TCACCGGTTTGATCCGGTTGCCTCGAGTACCAACCACCCTCTTTTCACTTCCAACCCTCA
                                                                                                                                                                                                                                                                                                                                                                                                                   TGACCTTGTACCTTTCTTCGAGTACAAGCTTTACGCCAACG-----GAGATGTTCCCGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          525 GGAAACGAICGAGAAACCCGGIGIGAAGGICGIGIACTIGIGCCGGAACCCGITIGACAC
                                                                          TCAAGCCATCATGTCTTTCCAAAACATTTCCAATCCCTCGAAAACGACGTCGTTCTCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AİT 1069
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TTT 1067
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1067
                                                                                                                                                                                                                                            287
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                647
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      705
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            707
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1005
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1065
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   527
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       645
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     294
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               885
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          945
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   947
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         407
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            585
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                825
                    167
                                                                          231
                                                                                                                                227
                                                                                                                                                                                      291
                                                                                                                                                                                                                                                                                                    351
                                                                                                                                                                                                                                                                                                                                                                                                                   411
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         dd
                                                                                                                                                                                                                                원
성
연
                                                                                                                                                                                                                                                                                                                                                                                                    8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   \delta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         \delta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8
                                                                    ò
                                                                                                                       D
                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ð
```

831 747 891 795

Wed

q

ઇ

d ò

```
RESULT 4

US-10-424-599-82242

US-10-424-599-82242

Sequence 82242, Application US/10424599

Publication No. US20040031072A1

GENERAL INFORMATION:

APPLICANT: La Rosa Thomas J

APPLICANT: Zhou Yihua

APPLICANT: Zhou Yihua

TITLE OF INVENTION: Soy Nucleic Acid Molecules and Other Molecules Associated With

TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement

TITLE OF INVENTION: US/10/424,599

CURRENT APPLICATION NUMBER: US/10/424,599

CURRENT FILING DATE: 2003-04-28

NUMBER OF SEQ ID NOS: 285684

LENGTH: 787
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 952 CGATTCTTGTTTCGGAAAGGAGAAGTGAGTGATTGGGTTAACTATTTGTCACCTTCACAA 1011
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        795
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  448 GITAAGAGCTCGTCTTGTAAGATTGTGTATGTAGGAACCCTAAGGACATGTTGTG 507
                                                                                                                                                                                   652 CAAGCTTTTGATCTGTATTGCCGGGAGTGATCGGGTTTTGGCCCGTTTTGGGAACACATG 711
                                                                                                                                                                                                                                        627
                                                                                                                                                                                                                                                                                                                                              687
                                                                                                                                                                                                                                                                                                                                                                                                831
                                                                                                                                                                                                                                                                                                                                                                                                                                               688 GAGCTAAAGAAGCAGACCGAAGTTGAGATGAAGCGGATCGCGGAGTTCTTGGAATGTGGC 747
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    891
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             951
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        223
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       508 TCCTTATGGCATTTTGGGAAAAAGCTAGCTCCTGAGGAAACCGCGGATTATCCTATCGAA 567
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               224 AAGAGATTCAAGCCATCATGTCTTTCCAAAACATTTCCAATCCTCGAAAACGACGTCG 283
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1012 GIGGAAAGATIGICAGCCITAGIGGAIGACAAGITAGGIGGAICIGGICICACITI 1067
                                                                                592 TCTTCGTGGCATTACACCAACAACATCAAATCCGAGTCAGTGAGCCCAGTCTTGCTAGAC
                                                                                                                                                                                                                                     568 AAAGCGGTTCAAGCGTTTTGTGAAGCGAAGTTTATAGGTGGACCCTTTTGGGATCATATA
                                                                                                                                                                                                                                                                                          712 TIGGGATACTGGAGAGAGAGCTTGAAGAGACCAGAGAAAGTCTTCTTTTAAGGTACGAG
                                                                                                                                                                                                                                                                                                                                            628 riegagiaciegialgeaagecegegaaaleeaacaagicileireriagiage
                                                                                                                                                                                                                                                                                                                                                                                             GATCTCAAAGACGACATCGAGACCAACTTGAAGAGGCTTGCAACTTTCTTAGAGCTTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 832 TTCACCGAAGAGAAGAACGAAAGGAAGTTGTGAAGGCTATCGCCGAGCTGTGTAGCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      748 TITATIGAAGAAGAAGAA-----GIGAGAGAGATIGIGAAGIGGAGCTIT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          892 GAGAATCTGAAGAAGTTGGAGGTGAACAAGTCAAACAAGTCGATCAAGAACTTTGAGAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      796 GAGAGTITAAGTAATTTGGAAGTTAACAAAGAAGGGAAATTGCCAAATGGAATAGAGACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    50 AAGCAAGTGAAGAAAACAAATTAAGCCAAGATTGTAAGGAGTTAATTCTATCTTCCTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        164. AGGAGAGAGAGATGGAGAACTCGTTACCTTTACCTATTCCAAGGGTTTTGGTGCCAAGGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      916 GCAGAGGAAATTGATAGAACCATTGAAGAGAAGTTTAAAAGGTTCTGGTCTTAAATT 971
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               104 AAGCCGAAGAAGATGAAGGGCTAAAGCTGCGAGTTCCAAGAGATGTTGGATTCTTCCTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 787;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           20.6%; Score 221.8; DB 13; Length
58.2%; Pred. No. 5.9e-63;
tive 0; Mismatches 297; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              , OTHER INFORMATION: Clone ID: PAT_MRT3847_45281C.1
US-10-424-599-82242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TYPE: DNA ORGANISM: Glycine max
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity
Matches 435; Conserv
                                                                                                                                                                                                                                                                                                                                                                                             772
                                                                             ઠે
                                                                                                                               g
                                                                                                                                                                        8
                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                 CD
                                                                                                                                                                                                                                                                                                                                                                                             à
                                                                                                                                                                                                                                                                                                                                                                                                                                            엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                          Sequence 2049, Application US/09938842A

Sequence 2049, Application US/09938842A

Publication No. US20040009476A9

GENERAL INFORMATION:

APPLICANT: Harper, Jeff

APPLICANT: Kreps, Joel

APPLICANT: Areps, Joel

APPLICANT: APPLICANT: WING, Xun

APPLICANT: ALM, Tong

TITLE OF INVENTION: STRESS-REGULATED GENES OF PLANTS, TRANSGENIC PLANTS CONTAINING

TITLE OF INVENTION: SAME, AND METHODS OF USE

FILE REFERENCE: SCRIP1300-3

CURRENT APPLICATION NUMBER: US/09/938,842A

CURRENT APPLICATION NUMBER: US 60/227,866

PRIOR PILING DATE: 2001-08-24

PRIOR FILING DATE: 2001-01-16

PRIOR FILING DATE: 2001-01-16

PRIOR FILING DATE: 2001-01-16

PRIOR FILING DATE: 2001-01-16

PRIOR FILING DATE: 2001-01-16

PRIOR FILING DATE: 2001-01-16

BRIOR FILING DATE: 2001-01-16

CHENCTH: 981
                                                                                                   952 CGATTCTTGTTTCGGAAAGGAGAAGTGAGTGATTGGGTTAACTATTTGTCACCTTCACAA 1011
                                            796 dadadiripakerparinddaadinaadaagaadagaanideesaanegaanadadaci 855
                                                                                                                                                  856 aaaactrictitragaaaagaagatrgaagargaagagaractricagrgagackarrg 915
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GAGAATCTGAAGATTGGAGGTGAACAAGTCAAACAAGTCGATCAAGAACTTTGAGAAT 951
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     213
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    411
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 531
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               93
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GGATGGAGAACTCGTTACCTTTACCTATTCCAAGGGTTTTGGTGCCAAGCCCAAGAGATT 231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CAAGCCATCATGTCTTTCCAAAACATTTCCAATCCCTCGAAAACGACGTCGTTCTCGCC 291
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             214 ACTAATCCTAAATCAGGTACCACTTGGTTAAAAGCTCTTGTCTTTGCTCTCCCTTAAACCGA 273
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GACCITGIACCITICITCGAGIACAAGCITIACGCCAACGGAGAIGITCCCGGAICTCTCG 471
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       crrcrigiaccerrcriadaagaagrrracracdagaeceecadarr---cdarricre 387
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AGITIGCCTTCTCCAAGACTGAIGAACACGCACATATCGCATCTTTCGCTCCCCGAGTCT 447
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATCGAGAAACCCGGTGTGAAGGTCGTGTACTTGTGCCGGAACCCGTTTGACACATTCATC 591
                                                                                                                                                                                                               1067
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              112 GAAGAFGAAGGGCTAAGCTGCGAGTTCCAAGAGATGTTGGATTCTCTTCCTAAGGAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               34 GGAGATGAAGATCTGACAAGAAACAAGAGCTCTGATCTCTTCTTCTTCTAAAGAGAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         154 CAAGGAATCTTGATCTGCCAAAAACGCTTTGAAGCTAAAGATTCCGACATTATCCTCGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACCATACCTAAATCCGGTACAACCTGGCTAAAAGCTTTTAACTTTTCACCATCCTTAAACGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CACCGGTTTGATCCGGTTGCCTCGAGTACCAACCACCTCTTTTCACTTCCAACCCTCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GGTCTAGCCAGTCCAAGAACGTTCGCAACCCACTTACCGTTCGGTTCCCTAAAGGAAACG
                                                                                                                                                                                                                                                      deadadadartadanecartdandadadrirtanaddriciddicrinaart 971
                                                                                                                                                                                                       1012 GIGGAAAGATIGICAGCCTTAGIGGAIGACAAGTTAGGIGGAICTGGICTCACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 981;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 229.2; DB 11; Length
Pred. No. 2.3e-65;
0; Mismatches 413; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TYPE: DNA ORGANISM: Arabidopsis thaliana
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    21.3%;
ilarity 54.9%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             al Similarity
525; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ; OKGANISM: AFADIC
US-09-938-842A-2049
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local S:
Matches 525,
892
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   94
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    352
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        412
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             331
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                388
```

6 6 6 6 6 6 6

g à

g 8

Qy 86 AAACTGGGGAGGTCCGGAAGGCGAAGAAGATGAAGGCTAAGCTGCGAGTTCCAAGAGA 145	17 AAGCTCATCACTTCCAACTACATGAAAGAGACAACGTTAGTCAAGAAACCTAAGAACT 146 TGTTGGATTCTTTCTTAGGAGAGAGAGAGAGACTCGTTACCTTTACCTATTCCAAG 77 TGATGACTTCTTAGACAAAGATTTCATGGGTTATGGTCTTACAACTAGAGAGATTCATGGGTTATGGTCTTACAAAGATTTCATGGGTTATGGTCTCTACAACTAAGAGATTTCATGGGTTATGGTCTTACAAACAA	Oy 206 GGTTTGGTGCDAAGCCAAAGAGATTCAAGCCATCATCTTCCAAAAACATTCAAT 283	Db 197 CACGAGATACTGATATAATCCTCGGCTTCTTTGCCCAAGGTGGAACCACTTGGCTCAAAT 256 QY 326 CTTAACCATCCTAACCGTCACCGGTTTGATCCGGTACCACCAAC 385	386	Oy 446 CCAACGGAGGTTCCCGAILTCICGGGTGTAGAACGAGTCTAGAGAACGGTGTGAATTCTGGCAAATTCTGGCAAAGTGTTTTTTTAGAGAAACGAAATTCTTCTTCTTTTTTTT	431	488	Db 548 CCAAGATGGATCAAGCCACTTTTGAGCTCATGTTTGTTTTTTTT	608		QY 866 AGGCTATGGCCGAGCTGTGTAGCTTCGAGAATCTGAAGAAGTTGGAGGTGAACAAGTCAA 925	OY 926 ACAAGTCGAICAAGAACTTIGAGAATCGAITCTTGTTICGGAAAGGAGAAGIGAGTI 985	OY 986 GGGTTAACTATTGTCACCTTCACAAGTGGAAAGATTGTCAGCCTTAGTGGATGACAAGT 1045	Oy 1046 TAGGTGGATCTGGTCTCACTTT 1067	RESULT 6 US-09-938-842A-1027 ; Sequence 1027, Application US/09938842A
CTGAAATCCAAGCCATAAACACTTTTCAAAACCAATTCCAAGGTAAGGACAATGTTG	284 TICTGGCCACCATACCTAGATCTGGCTAAAAGCTTTAACTTTCACTCTCC 343 230 TIATTGCTAGTGTTCCAAATCGGGCACCATTGGTTAAAAGCCTTACCTTTGCTATTC 289 344 TTAACCGTTAGTTGAAATCGGTTGCTTGAAAGCCCTTTTTCACTTTCA 403 344 TTAACCGTTAGATCGGTTGCTCGAGTACCACCCCCTTTTTCACTTCA 403 290 TCCATCGCCAGTATTCCTTCCTTAGAGAACCACCATTATTTTCA 340	ACCCTANGACCTTGTACCTTTCGAGTACAAGCTTTACGCCAACGGAGATG		461 CATIGGCCAAATCAAȚIAAAGAGACTGTAAGATCATTTATATTTGTAGGAATCIAT 520 578 TIGACACATICATCTTTGGGGCATTACACCAACAACATCGAGTCGGGGCC 637	638 CAGICTIGCIAGACCAAGCTITIGAICTGIAITIGCCGGGAGTGAICGGGITTGGCCCGT 697 		758 ITTTAAGGTACGAGGATCTCAAAGACGACATCGAGACCAACTTGAAGAGCTTGCAACTT 817 	818 TCTTAGAGCTTCCTTTCACCGAAGAAG 844 	SULT 5 -09-938-842A-1027 Sequence 1027, Application US/09938842A Patent No. US20020160378A1	SENERAL INFORMATION: APPLICANT: Harper, Jeff APPLICANT: Kreps, Joel APPLICANT: Wang, Xun	TITLE OF INVENTION: STRESS-REGULATED GENES OF PLANTS, TRANSGENIC PLANTS CONTAINING TITLE OF INVENTION: SAME, AND METHODS OF USE PILE REFERENCE: SCRIP1300-3 CURRENT APPLICATION NUMBER: US/09/938,842A	CURRENT FILING DATE: 2001-08-24 PRIOR APPLICATION NUMBER: US 60/227,866 PRIOR FILING DATE: 2000-08-24 PRIOR APPLICATION NUMBER: US 60/264,647	PRIOR FILING DATE: 2001-01-16 PRIOR APPLICATION NUMBER: US 60/300,111 PRIOR FILING DATE: 2001-106-22 PUMBER OF SEQ ID NOS: 5379	SEQ ID NO 1027 LENGTH: 996 TYPE: DNA TASANISM: Arabidopsis thaliana	Query March Quert Local Similarity 53.0%; Pred. No. 5.1e-62; Matches 520; Conservative 0; Mismatches 453; Indels 9; Gaps 2;

```
APPLICANT: La Kovalica, David K.
APPLICANT: La Kovalic, David K.
APPLICANT: Excellic, David K.
APPLICANT: Zhou, Yihua
APPLICANT: Zhou, Yihua
APPLICANT: Wu, Wei
APPLICANT: Wu, Wei
APPLICANT: Buckharov, Andrey A.
APPLICANT: Barbazuk, Brad
APPLICANT: Barbazuk, Brad
APPLICANT: Barbazuk, Brad
APPLICANT: Barbazuk, Brad
APPLICANT: Li, Ping
TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement
TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement
CURRENT APPLICATION NUMBER: US/10/437,963
CURRENT PILING DATE: 2003-05-14
NUMBER OF SEQ ID NOS: 204966
LENGTH: 1041
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GGGTTAACTATTTGTCACCTTCACAAGTGGAAAGATTGTCAGCCTTAGTGGATGACAAGT 1045
                                                                                                                                                                  865
                                                                                                                                                                                                                                                                                                                                     925
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        985
                               787
                                                                                                                                                                                                                                                                                                                                                                                                         AGGAGATCTTGAAGTTGTGTAGTTTACGAATTTAAGCAATTTGGAGGTTAATAAGAATG 847
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            908 GGAAGAATCATCTTACGCCACAAATGGCGAAAACCTTTGATGAGATTATTGACTATAGAC 967
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            402 AGTCCCGGACCTGGGCTGCCGGACCCGAGGCTGTTCGCGACGCACGTCCCGTTCAC 461
                                                                                                                                                         GGCTTGCAACTTTCTTAGAGCTTCCTTTCACCGAAGAAGAAGGAACGAAAGGGAGTTGTGA
                                                                                                                                                                                                                                               866 AGCTATCGCCGAGCTGTGTAGCTTCGAGAATCTGAAGAAGTTGGAGGTGAACAAGTCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   848 GGACAACGAGAATTGGTGTAGATTCTCAGGTGTTCTTTAGGAAAGGTGAAGTTGGTGATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 342 cricerrescicecacidatecircaacrirerieadraceascriciaacaacas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     276 GGACGTCGTCTCGCCACCATACCTAAATCCGGTACAACCTGGCTAAAAGCTTTAACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            285 ceccacedededecicie - - endegagenacicosecedadesecededededesentrana
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CACTTCCAACCCTCATGACCTTGTACCTTTCGAGTACAAGCTTTACGCCAACGGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TGTTCCCGATCTCCGGGTCTAGCCAGTCCAAGAACGTTCGCAACCCACTTACCGTTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       225 CGACATCATCGTCGCCACCTTGCCCAAGTCCGGCACGACGTGGATCAAGGCGCTCCTCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  516 TICCCTAAAGGAAACGAICGAGAAACCCGGIGIGAAGGICGIGIACTIGIGCGGAACCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 1041;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
18.6%; Score 200.8; DB 17; Length
Best Local Similarity 56.0%; Pred. No. 7.8e-56;
Matches 448; Conservative 0; Mismatches 337; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ; OTHER INFORMATION: Clone ID: PAT_MRT4530_57824C.1
US-10-437-963-55857
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 55857, Application US/10437963
Publication No. US20040123343A1
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1046 TAGGTGGATCTGGTCTCACTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              raddadacrccddrrrdararr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TYPE: DNA
ORGANISM: Oryza sativa
                                                                                                                                                         908
                                                                                                                                                                                                                                           728
                                                                                                                                                                                                                                                                                                                                                                                                             788
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    396
                                                                                                                              à
                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                       ઠે
                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          슝
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            gg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
Publication No. US20040009476A9
GENERAL INFORMATION:
APPLICANT: Harper, Jeff
APPLICANT: Harper, Jeff
APPLICANT: Harper, Jeff
APPLICANT: Mang, Xun
APPLICANT: Wang, Xun
APPLICANT: Zhu, Tong
TITLE OF INVENTION: SAME, AND METHODS OF USE
TITLE OF INVENTION: SAME, AND METHODS OF USE
TITLE OF INVENTION: SAME, AND METHODS OF USE
TITLE OF INVENTION: SAME, AND METHODS OF USE
TITLE OF INVENTION NUMBER: US/09/938,842A
CURRENT APPLICATION NUMBER: US 60/227,866
PRIOR FILING DATE: 2001-08-24
PRIOR FILING DATE: 2001-01-16
PRIOR FILING DATE: 2001-01-16
PRIOR FILING DATE: 2001-06-22
NUMBER OF SEQ ID NOS: S379
SEQ ID NO 1027
LENGTH: 996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           86 AAACTCGCGACGTCCCGAAGGAGGAGATGAAGGCTAAGCTGCGAGTTCCAAGAGA 145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  146 TGTTGGATTCTTCCTAAGGAGAGGATGGAGAACTCGTTACCTTTACCTATTCCAAG 205
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GGTTTTGGTGCCAAGCCAAAGAGTTCAAGCCATCATGTCTTTCCAAAAACATTTCCAAT 265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CCCTCGAAAACGACGTCGTTCTCGCCACCATACCTAAATCCGGTACAACCTGGCTAAAAG 325
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACCCTCTTTTCACTTCCAACCCTCATGACCTTGTACCTTTCTTCGAGTACAAGCTTTACG 445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCAACGGAGATGTTCCCGATCTCGGGTCTAGCCAGTCCAAGAACGTTCGCAACCACT 505
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  565
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               77 rdarcacircricracircadacaadarrrcardegrraregricracaacracaada 136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       137 érrigiriséractaracacriccaadecerrerreacericcaaaadecrircaage 196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              197 caccacinacrearana recirci cerrenti eccana a consecue de contra con esta contra contra con esta contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CITTAACTITCACCATCCTTAACCGTCACCGGTTTGATCCGGTTGCCTCGAGTACCAACC 385
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     cccraarriricacrerreracaracaaaaaacr----Acceceaaccccrcaaacac 310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Arccirigecicitracaaacccicaidacciridicecairircirdadgrigadiriaiacd 370
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               craaraccaaariccedarcrecaaagrarrerrererarearerreracaa 430
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      431 recacriracaagcarrecercaacaccaccaaaa---ecrrecaaaaccerararerer 487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GCCGGAACCCGTTTGACACATTCATCTTCGTGGCATTACACCAACAACATCAAATCCG 625
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GTAGAGGTATCAAAGATACGTTTGTCTCCGGCTGGCATTATAGAAACATGTTGCATCGCA 547
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        526 AGTCAGTGAGCCCAGTCTTGCTAGACCAAGCTTTTGATCTGTATTGCCGGGGAGTGATCG 685
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           686 GGTTTGGCCCGTTTTGGGAACACATGTTGGGATACTGGAGGAGAGAGCTTGAAGAGACCAG 745
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                s48 ccaagaridgarcaaccarcrrrreagcrcargrrrigargcrrarrardaagagagrcrcr 607
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             146 AGAAAGTCTTCTTTTAAGGTACGAGGATCTCAAAGACGACATCGAGACCAACTTGAAGA 805
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAGCTCATCACCTTCCAAACTACATGAAGACGACAACGTTAGTCAAGAAACCAAGAACT 76
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TACCGTTCGGTTCCCTAAAGGAAACGATCGAGAAACCCGGTGTGAAGGTCGTGTACTTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            608 mararida de certantes de la compartida de compando de la companda de compando de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda del companda del companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda de la companda del companda de la companda del companda de la companda de la companda del companda de la companda del companda del companda del companda del companda de la companda de la companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del companda del compan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 219.2; DB 11; Length
Pred. No. 5.1e-62;
0; Mismatches 453; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TYPE: DNA ORGANISM: Arabidopsis thaliana
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match 20.4%;
Best Local Similarity 53.0%;
Matches 520; Conservative (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-09-938-842A-1027
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           386
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          257
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               371
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     909
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    326
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  446
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  488
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ر
م
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ωp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            a do do
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
```

us-10-019-931-1.rnpb

```
Matches 485;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  531
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              651
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         771
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   101
                                                                                                                                                                                           174
                                                                                                                                                                                                                                                                                          234
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               591
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        831
Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Оþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               윤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     D
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           S
S
S
                                                                                                                                          g
                                                                                                                                                                                           ò
                                                                                                                                                                                                                                         유
                                                                                                                                                                                                                                                                                          ð
                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                          . 염
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TTGGGTTAACTATTTGTCACCTTCACAAGTGGAAAGATTGTCAGCCTTAGTGGATGACAA 1043
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             cresecsalecarcirrice cesasarres cases este careceratas con 1001
                                                                                                                                                                                                                                            752
                                                                                                                                                                                                                                                                                                                                             812
                                                                                                                                                                                                                                                                                                                                                                                                                                            872
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -----GATCAAGAACTITGAGAATCGATTCTTGTTTCGGAAAGGAGAAGTGAGTGA 983
                                                                                                 581
                                                                                                                                               692
                                                                                                                                                                                                641
                                                                                                                                                                                                                                                                                          701
                                                                                                                                                                                                                                                                                                                                                                                         761
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CGCCGAGCTGTGTAGCTTCGAGAATCTGAAGAAGTTGGAGGTGAACAAGTCAAAGAAGTC 932
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       881
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             H
                                                                                                                                                                                                                                                                                                                                                                          822 cercagecierecrecercacarcacaresceresceresassecaasses
     GTCGCTGCCGAGCGCCGCGCGGCGTCGGGCTGCAAGGTCGTGTACGTGTGCCGCGACCC
                                                                                                                                                                                           582 gaagdanfaragaagkasanasaakaananadaaranadaadaakaanah
                                                                                                                                                                                                                                              813 AACTITCTTAGAGCTTCCTTTCACCGAAGAAGAACGAAAGGAATTGTGAAGGCTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      geagerregrégacacegecesanairacercarrecirecerceceses es es es es estados es es estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados estados es
                                                                                              GAGCCCAGTCTTGCTAGACCAAGCTTTTGATCTGTATTGCCGGGAGTGATCGGGTTTTGG
                                                                                                                                                                                                                                                                                                                                             CTICITITIAAGGIACGAGGAICICAAAGACGACAICGAGACCAACTIGAAGAGGCTIGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: JIN, HUA
TITLE OF INVENTION: NUCLEAR FERTILITY RESTORER GENES AND METHODS OF I
TITLE OF INVENTION: PLANTS
FILE REPERENCE: 16313-0136
CURRENT APPLICATION NUMBER: US/10/195,144
CURRENT APPLICATION NUMBER: US/2026
PRIOR PELLING DATE: 2002-10-01
PRIOR PELLING DATE: 2001-07-12
PRIOR PELLING DATE: 2001-07-13
PRIOR PLILOR DATE: 2001-07-13
PRIOR PLILOR DATE: 2001-07-13
PRIOR PELLICATION NUMBER: 60/308,363
PRIOR PLILOR DATE: 2001-07-30
PRIOR FILING DATE: 2001-07-30
                                                     GTTTGACACATTCATCTTCGTGGCATTACACCAACAACATCAAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NAME/KEY: modified base;
; LOCATION: (144241)...(144300)
; OTHER INFORMATION: a, t, c, g, other or unknown US-10-195-144-87
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 87, Application US/10195144
Publication No. US20030126646A1
GENERAL INFORMATION:
APPLICANT: BYORN, GREGORY G.
APPLICANT: PORMANOVA, NATASA
APPLICANT: DENDY, CHARLES
APPLICANT: LANDRY, BENOIT S.
APPLICANT: CHEUNG, WING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1063
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gricaarsericcesicica 1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GTTAGGTGGATCTGGTCTCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NUMBER OF SEQ ID NOS: 128
SOFTWARE: Patentin Ver. 2.1
SEQ ID NO 87
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TYPE: DNA
ORGANISM: Raphanus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -10-195-144-87/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          JENGTH: 271990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1044
                                                                                                                                                                                                                                                                                                  642
                                                                                                                                                                                                                                                                                                                                                753
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           882
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       942
                                                        276
                                                                                                      522
                                                                                                                                                                                                                                                                                                                                                                                                 702
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              873
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          933
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            984
                                                                                                                                                                                                                                                   693
                                                                                                                                                    633
                                                                                                    g
                                                                                                                                                                                           Сp
                                                                                                                                                                                                                                                                                                                                                                                           Dp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 q
                                                     ò
                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                           8
                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                    ઠ
```

```
244730 AGGIGIC-TCAATITCCAGAGAGGTTTTCAACCGCAAGACACTGATGAATCATTGCTTC 244672
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         244611 AAAGAACCACTCTTCTG------ATCATCCTCTCTATATCATAATCCTCTGTG 244564
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            244444
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   244263 ciridactriacticadadadadactridadagaccicadadacarciritricardadciarda 244204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               244084
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     244083 GCGTAATCTGAGCAGTTTGGAGGCTAACAA---AACAGGGACAATAAACAATGTGGAGCA 244027
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 244026 caagitriririrccgraaaggagaagregrgaccgaaaaarriarcracgrcrcaaar 243967
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            244563 CATTATACCATTCTTGGAGATGGATGTGTACCACGAAAGCTCAAGTCCTAACCTAGCCAA 244504
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          244264
                                                                                                                                                                                                                                                                                                                     244731
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 244324
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1010
                                                               4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      830
                                                                                                                        114 AGATGAAGGGCTAAGCTGCGAGTTCCAAGAGATGTTGGATTCTCTTCCTAAGGAGAGAGG 173
                                                                                                                                                                                                                                                        233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    650
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       244671 gracciccaaarcadedeacracradecreaadedecercacacacredecreacradades
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   414 CCTTGTACCTTTCGAGTACAAGCTTTACGCCAACGGAGATGTTCCCGATCT---CTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     244503 drrcrckáckacerickákágertérrérkérkékakáckackákarackákákáká
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       244323 GTCTATGİTİAACGAĞİTCİĞĞATĞAACĞAĞTATİTİĞĞAĞÇTİTİTĞĞĞATĞATCİ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     244143 İTİTRİTRAZBAĞAĞAAĞARARAĞIĞATCTĞTĞĞAĞĞĞĞATCTTĞĞAÇĞTÇTTĞ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        951 TCGATTCTTTCTGGAAAAGGAGAAGTGATTGGGTTAACTATTTGTCACCTTCACA
                                                                                                                                                                                                                                                                                                       244790 TTACCAÁGGGCATAÁGATTTGTAAATATCAAGGATGTTGGTATTATTACAACACCCTCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 244443 ACTCAAGCACTCCTTGCAAGATTGTGTACGTGTGCAGGAAGGTGAAGGACGTTGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GGATCTCAAAGACGACATCGAGACCAACTTGAAGAGGCTTGCAACTTTCTTAGAGCTTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               244203 ddagangaadgccdagccncongancagancaadaadaachndcogachrirdagangrdd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TTTCACCGAAGAAGAAGAACGAAAGGGAGTTGTGAAGGCTATCGCCGAGCTGTGTAGCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               891 CGAGAATCTGAAGAAGTTGGAGGTGAACAAGTCAAACAAGTCGATCAAGAACTTTGAGAA
                                                                                                                                                                                  294 CATACCTAAATCCGGTACAACCTGGCTAAAAGCTTTAACTTTCACCATCCTTAACCGTCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CCGGTTTGATCCGGTTGCCTCGAGTACCAACCACCTCTTTTCACTTCCAACCCTCATGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CTCTTCGTGGCATTACACCAACATCAAATCCGAGTCAGTGAGCCCCAGTCTTGCTAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              244383 cricererridearriracaecrarararararararcaaccaaccadagaagricreda
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          711 GITGGGATACTGGAGAGAGGTTGAAGAGACCAGAGAAAAGTCTTTTTAAGGTACGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               471 GGGTCTAGCCAGTCCAAGAACGTTCGCAACCTTACCGTTCGGTTCCCTAAAGGAAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GATCGAGAAACCCGGTGTGAAGGTCGTGTACTTGTGCCGGAACCCGTTTGACACATTCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CCAAGCTTTTGATCTGTATTGCCGGGGAGTGATCGGGTTTGGCCCGTTTTGGGAACACAT
                                                                                                                                                                                                                                                        ATGGAGAACTCGTTACCTTTACCTATTCCAAGGGTTTTGGTGCCAAGGCCAAAGAGATTCA
                                                                                                                                                                                                                                                                                                                                                                                 AGCCATCATGTCTTTCCAAAAACATTTCCAATCCCTCGAAAACGACGTCGTTCTCGCCAC
                                                               Gaps
Length 271990;
                                                               19;
      Score 184.2; DB 15; Length
Pred. No. 9.4e-49;
0; Mismatches 403; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 9
US-10-345-072-87/c
Sequence 87, Application US/10345072
Publication No. US20030237112A1
      17.1%;
53.5%;
                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       243966 GGAGAAA 243960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AGTGGAA 1017
                                        Similarity
```

244027

890

```
244026 CAAGTITITITITCGITAAAGGAGAAGTCGGIGACTCGAAAATTATCTTACGTCTGAAAT 243967
                                                                                                                                                                      244263 cirdadriacrddadadadadcirddaagacccaaadcardrcrirrcardaddarda 244204
                                                                                                                                                                                                                                                                              244203 GGAGATGAAAGCCGAGCCTCGTGATCAAGAGACTTGCGGACTTCTTGGGATGTCC 244144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: BROWN, GRECCRY G.
APPLICANT: BROWN, MAIASA
APPLICANT: BROWN, MAIASA
APPLICANT: DENDY, CHARLES
APPLICANT: CHEUNG, WING
APPLICANT: CHEUNG, WING
APPLICANT: CHEUNG, WING
APPLICANT: CHEUNG, WING
TITLE OF INVENTION: PLANTS
FILE REFERENCE: 16313-0136
CURRENT APPLICATION NUMBER: US/10/195,144
CURRENT PILING DATE: 2002-10-01
PRIOR APPLICATION NUMBER: 60/305,363
PRIOR PLILING DATE: 2001-07-12
PRIOR PELING DATE: 2001-07-13
PRIOR PLILING DATE: 2001-07-13
PRIOR PLILING DATE: 2001-07-13
PRIOR PLILING DATE: 2001-07-30
NUMBER OF SEQ ID NOS: 128
SOFTWARE: PALENTIN Ver. 2.1
SEQ ID NO 80
LENGTH: 2067
                651 CCAAGCTTTTGATCTGTATTGCCGGGGAGTGATCGGGTTTTGGCCCGTTTTGGGAACACAT 710
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            237 CATCATGTCTTTCCAAAACATTTCCAATCCCTCGAAAACGACGTCGTTCTCGCCACCAT 296
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               282 CATITITICGGGITTIGAGAGGITTICAACGCAAGACACTGATGTAATCATTGCTTGGTA 341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             357 GTTTGATCCGGTTGCCTCGAGTACCAACCACCTCTTTTCACTTCCAACCCTCATGACCT 416
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TCGATTCTTGTTTCGGAAAGGAGAAGTGAGTGATTGGGTTAACTATTTGTCACCTTCACA
                                                              244323 GTCTATGÍTÍTAACGAGÍTTCTGCGATGGAACCAACTATÍTÍTGGACCTTÍTÍTGGGATCÁTCT
                                                                                                                      GTTGGGATACTGGAGAGAGAGCTTGAAGAGCCAGAGAAAGTCTTTTTAAGGTACGA
                                                                                                                                                                                                                                                                                                                                    831 TITCACCGAAGAAGAACGAAACGGAGTTGTGAAGGCTATCGCCGAGCTGTGTAGCTT
                                                                                                                                                                                                                                                                                                                                                                                    244143 TTTTACTARGCARGARGARGTAGTGGATCTGTGGACGGGATCTTGGACCTCTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                         891 CGAGAATCTGAAGAAGTTGGAGGTGAACAAGTCAAACAAGTCGATCAAGAACTTTGAGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               244083 GCGTAATCTGAGCAGTTTGGAGGCTAACAA---AACAGGGACAATAAACAATGTGGAGCA
                                                                                                                                                                                                                              GGATCTCAAAGACGACATCGAGACCAACTTGAAGAGGCTTGCAACTTTCTTAGAGCTTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    297 ACCTAAATCCGGTACAACCTGGCTAAAAGCTTTAACTTTCACCATCCTTAACCGTCACCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       342 ccccaaarcaggcacracriggcrcaaggcccrcacagrcgcrcrgcrrgagagarcaaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match 15.4%; Score 166; DB 15; Length 2 Best Local Similarity 53.7%; Pred. No. 5.6e-44; Matches 421; Conservative 0; Mismatches 345; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 80, Application US/10195144
Publication No. US20030126646A1
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ORGANISM: Raphanus sativum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          243966 GGAGAAA 243960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1011 AGTGGAA 1017
                                                                                                                                                                                                                              771
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  951
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TYPE: DNA
                                                        셤
                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                              Dp
                                                                                                                   \delta
                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     유
                                                                                                                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                              APPLICANT: JIN, HUA
APPLICANT: LAI, FANG MING
APPLICANT: LAI, FANG MING
APPLICANT: LEAF, FANG MING
APPLICANT: LEAF, FANG MING
APPLICANT: LEFOREST, MARTIN
TITLE OF INVENTION: NUCLEAR FERTILITY RESTORER GENES AND METHODS OF USE IN
TITLE OF INVENTION: PLANTS
FILE REFERENCE: 16313-0210
CURRENT APPLICATION NUMBER: US/10/345,072
CURRENT PILING DATE: 2003-01-16
FRIOR PRILING DATE: 2002-07-12
FRIOR FILING DATE: 2001-07-12
FRIOR PRILING DATE: 2001-07-12
FRIOR PILING DATE: 2001-07-13
FRIOR PILING DATE: 2001-07-13
FRIOR PILING DATE: 2001-07-30
FRIOR PILING DATE: 2001-07-30
FRIOR PILING DATE: 2001-07-30
FRIOR PILING DATE: 2001-07-30
FRIOR PILING DATE: 2001-07-30
FRIOR PILING DATE: 2001-07-30
FRIOR PILING DATE: 2001-07-30
FRIOR PILING DATE: 2001-07-30
FRIOR PILING DATE: 2001-07-30
FRIOR PILING DATE: 2001-07-30
FRIOR PILING DATE: 2001-07-30
FRIOR PILING DATE: 2001-07-30
FRIOR PILING DATE: 2001-07-30
FRIOR PILING DATE: 2001-07-30
FRIOR PILING DATE: 2001-07-30
FRIOR PILING DATE: 2001-07-30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       244671 GTACCCCAAATCAGGCACTACTTGGCTCAAGGCCCTCACAGAGTCGCTTGAGAGAGTC 244612
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       244731
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              244503 GrrcrcAdcaccriccadacrdricrcaacrchcaracacacacacacadarcadaac 244444
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            244443 ACTCAAGCACTCTCCTTGCAAGATTGTGTACGTGTGCAGGAACGTGAAGGACACGTTGAT 244384
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      244611 AAAGAACCACTCTTCTG------ATCATCCTCTCTTATCATAATCCTCATGG 244564
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           244563 CATTATACCATTCTTGGAGATCGATGTGTACCACGAAAGCTCAAGTCCTAACCTAGCCAA 244504
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               590
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 114 AGATGAAGGGCTAAGCTGCGAGTTCCAAGAGATGTTGGATTCTCTTCCTAAGGAGAGAG 173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CCITGIACCITICITCGAGIACAAGCITTACGCCAACGGAGAIGTTCCCGATCT---CTC 470
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          294 CATACCTAAATCCGGTACAACCTGGCTAAAAGCTTTAACTTTCACCATCCTTAACGTCA 353
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          174 ATGGAGAACTCGTTACCTTTACCTATTCCAAGGGTTTTGGTGCCAAGCCAAAGAGATTCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            244790 Traccasegecarasearirerasiareresegesereriesiarraracasecereca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  234 AGCCATCATGTCTTTCCAAAACATTTCCAATCCCTCGAAAACGACGTCGTTCTCGCCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                354 CCGGTTTGATCCGGTTGCCTCGAGTACCACCACCCTCTTTTCACTTCCAACCCTCATGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CTCTTCGTGGCATTACACCAACAACATCAAATCCGAGTCAGTGAGCCCAGTCTTGCTAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GGGTCTAGCCAGTCCAAGAACGTTCGCAACCCACTTACCGTTCGGTTCCCTAAAGGAAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GATCGAGAAACCCGGTGTGAAGGTCGTGTACTTGTGCCGGAACCCGTTTGACACATTCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB 16; Length 271990;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    19;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity 53.5%; Pred. No. 9.4e-49;
Matches 485; Conservative 0; Mismatches 403; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NAME/KEY: modified base
LOCATION: (144241)...(144300)
OTHER INFORMATION: a, t, c, g, other or unknown
US-10-345-072-87
APPLICANT: BROWN, GREGORY G.
APPLICANT: DENDY, CHARLES
APPLICANT: LANDRY, BENOIT S.
APPLICANT: CHEUNG, WING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LENGTH: 271990
TYPE: DNA
ORGANISM: Raphanus sativum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ID NO 87
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 471
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         531
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           414
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 591
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  8 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   \delta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
```

```
954 ATTCTTGTTTCGGAAAAGGAGAGAGTGAGTGATTGGGTTAACTATTTGTCACCTTCACAAGT 1013
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  987 GTTTTTTTCGTAAAGGGGGAGAGTCGGTGACTCGAAAATTATCTTACGTCTGAAATGGA 1046
                                                                                                      3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           869
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GAATCTGAAGAAGTTGGAGGTGAACAAGTCAAAGTCGATCAAGAACTTTGAGAATCG 953
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           986
                                                                                                                                                                                                                  296
                                                                                                                                                                                                                                                                                                                         341
                                                                                                                                                                                                                                                                                                                                                                                                                               356
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         449
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               473
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           509
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  533
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              569
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     593
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           629
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       653
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        689
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    713
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           749
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  773
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              809
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          833
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       893
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        870 TACTAAGCAAGAAGAAGATAGTGGATCTGTGGACGGGATCTTGGACCTCTGCTGCG 929
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   530 gigniggininacagengracrahananaancgaaccaaccagagaginchegagre
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     gargadadecercercercarcadarcadedecercererredededecererent
                                                                                                                                                                                                             CAICAIGICITICCAAAAACAITICCAATCCCTCGAAAACGACGTCGTTCTCGCCACCAT
                                                                                                                                                                                                                                                                                                                                                                                                                          ACCTAAATCCGGTACAACCTGGCTAAAAGCTTTAACTTTCACCATCCTTAACGGTCACCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    342 CCCCAAATCAGGCACTACTTGGCTCAAGGCCCTCACAGTCGCTCTGCTTGAGAGATCAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TGTACCTTTCGAGTACAAGCTTTACGCCAACGGAGATGTTCCCGGATCT---CTCGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  594 ITCGTGGCATTACACCAACAACATCAAATCCGAGTCAGTGAGCCCAGTCTTGCTAGACCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GGGATACTGGAGAGAGAGCTTGAAGAGACCAGAGAAAGTCTTCTTTTAAGGTACGAGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        750 dagitaciddadadadadcindgaagacccaaadcaidiccinincandaddandadda
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       834 CACCGAAGAAGAAGGAACGAAAGGGAGTTGTGAAGGCTATCGCCGAGCTGTGTAGCTTCGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           930 nahricicagcagniricaaggcnaacaa---aacaggagacaaraaagagagagagagagaga
                                                                                                                                                                                                                                                                                                                   282 carititicoscrititicadescrititoras caracacadas caracates de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de con
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  357 GITTGAICCGGTIGCCICGAGIACCAACCACCTCTITTCACTICCAACCCTCAIGACCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   450 raraccarrerredadaredarererrerecadasadereagiceradecradecaderr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  474 TCTAGCCAGTCCAAGAACGTTCGCAACCCACTTACCGTTCGGTTCCCTAAAGGAAACGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        510 crcaddaccrcddaggcrgricrcdacrcadacacacacacacacacacacacac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CGAGAAACCCGGTGTGAAGGTCGTGTACTTGTGCCGGAACCCGTTTGACACTTCATCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     caascactroctrocaasatrefistacereficadeaacereaassacacericarete
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AGCITITGAICTGIAITGCCGGGGAGTGAICGGGTTTGGCCCGTTTTGGGAACACAIGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     690 TATGTTTAACGAGTTCTGCGATGGAACCAACTATTTTGGACCTTTTTGGGATCATCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    774 TCTCAAAGACGACATCGAGACCAACTTGAAGAGGCTTGCAACTTTCTTAGAGCTTCCTTT
                                                                                                            Gaps
                                                                                                            18;
Length 2067;
Score 166; DB 16; Length 2
Pred. No. 5.6e-44;
0; Mismatches 345; Indels
```

```
US-10-021-323-11330

Sequence 11330, Application US/10021323

Sequence 11330, Application US/20040123340A1

Sequence 11330, Application No. US20040123340A1

GENERAL INFORMATION:
APPLICANT: Fendy Paul C.C.
APPLICANT: Fincher, Karen L.
APPLICANT: Fincher, Karen L.
APPLICANT: APPLICANT: Degler, Todd E.
TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With TILLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With TILLE OF INVENTION: NUMBER: US/10/021,323

CURRENT APPLICATION NUMBER: US 60/255, 619

PRIOR FILING DATE: 2000-12-14

NUMBER OF SEQ ID NOS: 17880

SEQ ID NO 11330

LENGTH: 654
                                                                                                                                                                                                       AAAGGAGAAGTGAGTGGGTTAACTATTTGTCACCAACTGGAAAGATTGTCA 1026
                                                                                                                                                                                                                                                              955 AAGGGTGAGGTCGGAGACTGGAAGGAGCACATGTCGCCGGAGATGGCGCGGGGGCGTCGAC 1014
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ..
(C)
                                                                                                                                                954
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              413
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                473
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        288
109 acindincarincindakanangancininacingaacaacceirincergancincaaa 168
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      169 GTTTGTGCTTATCAGCCAAGGCTTTTTTCCACCCCCCCTTATGCTACTTTGCCAACT 228
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                649 GACCAAGCTTTTGATCTGTATTGCCGGGGAGTGATCGGGTTTGGCCCGTTTTGGGAACAC 708
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    9
                                                                                                                                    895 AATCGAGACGGCGACGGGGCTACTGGTCGTCGAGAAATCGGGCCTTCTTCAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CTTTTCCAAATGTGGTACTACTTGGCTCAAGGCCTTGACTTTCTCCACTTTGTACGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              354 CCGGTTTGATCCGGTTGCCTCGAGTACCAACCACCCTCTTTTCACTTCCAACCCTCATGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             414 CCTTGTACCTTTCTTCGAGTACAAGCTTTACGCCAACGGAGATGTTCCCGATCTCTCGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               474 TCTAGCCAGT-----CCAAGAACGTTCGCAACCCACTTACCGTTCGGTTCCCTAAAGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    229 recarraaggarrergeereraagarrerraearargraeaaaaeeeeearegararerre
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               589 ATCTCTTCGTGGCATTACACCAACAACATCAAATCCGAGTCAGTGAGCCCCAGTCTTGCTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         289 ATTICICITITGGCTTTTCTCTGCCAAGCTCCGAGACAAAACCAAGAGTCACTATCACTA
                                                                                         AA-----CAAGTCAAACACGATCGATCAAGAACTTTGAGAATCGATTCTTGTTTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             294 CATACCTAAATCCGGTACAACCTGGCTAAAAGCTTTAACTTTCACCCATCCTTAACGGTCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61 rcagircccargggarg------aaaarccarrgcrcacrrgccicrcacca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                529 ACGATCGAGAAACCCGGTGTGAAGGTCGTGTACTTGTGCCGGAACCCGTTTGACACATTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 654;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 157; DB 17; Length 6 Pred. No. 2.8e-41; O: Mismatches 251; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          all n locations
LIB3829-001-Q1-K6-G6
                                                                                                                                                                                                                                                                                                                      1027 GCCTTAGTGGATGACAAGTTAGGTGGATC 1055
                                                                                                                                                                                                                                                                                                                                                                                1015 GACGTCGTGGAGGAGGAGCTGCGAGGCTC 1043
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FEATURE:
NAME/KEY: unsure
LOCATION: (1)...(654)
OTHER INFORMATION: unsure at
OTHER INFORMATION: Clone ID:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local Similarity 56.9%;
Matches 355; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ORGANISM: Gossypium hirsutum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-10-021-323-11330
                                                                                         916
                                                                                                                                                                                                       196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Н
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TYPE: DNA
                                 유
                                                                                     \delta
                                                                                                                                    셤
                                                                                                                                                                                                 8
                                                                                                                                                                                                                                                        Op
                                                                                                                                                                                                                                                                                                                         8
                                                                                                                                                                                                                                                                                                                                                                       원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ୍ନ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                  GENERAL INFORMATION:
APPLICANT: La Rosa, Thomas J.
APPLICANT: La Rosa, Thomas J.
APPLICANT: Zhou, Yihua
APPLICANT: Zhou, Yihua
APPLICANT: Cao, Yongwei
APPLICANT: Cao, Yongwei
APPLICANT: Barbazuk, Brad
APPLICANT: Barbazuk, Brad
APPLICANT: Barbazuk, Brad
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li, Ping
APPLICANT: Li
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           235 GCCGCCCCAGGGACGTCATCTTGCTCGCCACCATCCCCAAGTCCGGCTCGACGTGGCTCAAG 294
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             555
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               265 TCCCTCGAAAACGACGTCGTTCTCGCCACCATACCTAAATCCGGTACAACCTGGCTAAAA 324
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GCTTTAACTTTCACCATCCTTAACCGTCACCGGTTTGATCCGGTTGCCTCGAGTACCAAC 384
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CACCCTCTTTTCACTTCCAACCCTCATGACCTTGTACCTTTCGAGTACAAGCTTTAC 444
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 35 CTCCTCCACTCCAGCCCGCACGCCCGCGCCTCGTCCATCCTGCACTCTACGAGATCAGC 414
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           445 GCCAACGGAGATGT-----TCCCGATCTCTCGGGTCTAGCCAGTCCAAGAACGTTC 495
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   415 CGCAGCTGCCGCGTCGCGCCAGGCCATCGCCTCGATGCCATGCCGTCGCCGCGCATCCTG 474
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 475 GCAGTGCACGAACCGCTCTCGAGCCTGCCCGCGTCGAGGCGTCCGGGTGCCGCGTC 534
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GTGTACTTGTGCCGGAACCCGGTTTGACACATTCATCTTCGTGGCATTACACCAACAAC 615
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATCAAATCCGAGTCAGTGAGCCCAGTCTTGCTAGACCAAGCTTTTGATCTGTATTGCCGG 675
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   736 AAGAGACCAGAGAAAGTCTTCTTTTAAGGTACGAGGATCTCAAAGACGACATCGAGACC 795
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    gedecedecedadedacercererecedaraceadacerereadadedacecerendades
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                856 GGAGTTGTGAAGGCTATCGCCGAGCTGTGTAGCTTCGAGAATCTGAAGAAGTTGGAGGTG 915
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            295 decricacerrenadrenaciacidadedededecacacacacacacacacacacacacaca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                595 Arcadacadadedarccaccardacecerredaceacerredaecricadecrerrededae 654
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Accerdadecececerececrirerresecrececrireacideses
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     205 GGGTTTTGGTGCCAAGCCAAGAGATTCAAGCCATCATGTCTTTCCAAAAACATTTCCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AACTTGAAGAGGCTTGCAACTTTCTTAGAGCTTCCTTTCACCGAAGAAGAAGAACGAAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GCAACCCACTTACCGTTCCGTTCCCTAAAGGAAACGATCGAGAAACCCCGGTGTGAAAGGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 1077;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 161.8; DB 17; Length
Pred. No. 9.5e-43;
0; Mismatches 407; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ; FEATURE:
; OTHER INFORMATION: Clone ID: PAT_MRT4530_57523C.1
MS-10-437-563-55524
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity 51.1%;
Matches 444; Conservative
   No. US20040123343A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORGANISM: Oryza sativa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQ ID NO 55524
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                616
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           556
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               919
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    715
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               964
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        325
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          385
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             496
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         염
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ⋧
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ωp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    λ
α
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ₹
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         장염
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ठ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
```

δ g Š g g

ò g

 δ

```
APPLICANT: Guad, July
APPLICANT: Chang, Hur-song
APPLICANT: Chang, Hur-song
APPLICANT: Chang, Hur-song
APPLICANT: Crang, Hur-song
APPLICANT: Crang, Hur-song
APPLICANT: Gare, Steven P.
APPLICANT: Gooper, Bret
APPLICANT: Gooper, Bret
APPLICANT: Mangamer, Todd
APPLICANT: Mangamer, Todd
APPLICANT: Micholas
APPLICANT: Micholas
APPLICANT: Micholas
APPLICANT: Ricke, Darrell
APPLICANT: Ricke, Darrell
APPLICANT: Provart, Nicholas
APPLICANT: Ricke, Darrell
APPLICANT: Ricke, Darrell
APPLICANT: Ricke, Darrell
APPLICANT: Now MEBR: US/10/259,165
CURRENT APPLICATION NUMBER: US 60/370,620
PRIOR PILING DATE: 2002-09-27
PRIOR FILING DATE: 2002-09-32
PRIOR FILING DATE: 2002-09-27
PRIOR FILING DATE: 2001-09-26
NUMBER OF SEQ ID NOS: 782
SEGTWARE: PatentList pl version 3.0.4 (C) 2001 Syngenta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 955 GAGCTTGGAGACTGGGCGAACCATCTGTCTCCGGAGATGGCGCAACGAATCGACGCCATC 1014
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       973 GAAGTGAGTGATTGGGTTAACTATTTGTCACCTTCACAAGTGGAAAGATTGTCAGCCTTA 1032
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gresaceccarrercaecrerercerreacacaacarececcresaeccaeccaae 894
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -----TCAAACAAGTCGATCAAGAACTTTGAGAATCGATTCTTGTTTCGGAAAGGA 972
                                                                                                                                                                                                                                                                                                                                                                                                  741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         655 rescentredadederradadadadadaterredecradededededededededededed 714
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             774
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            802 AAGAGGCTTGCAACTTTCTTAGAGCTTCCTTTCACCGAAGAAGAAGGAACGAAAGGGAGTT 861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        834
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  681
                                                                                                                                                                                                                                                            654
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      801
535 TGCCGTGACCCCAAGGACACCCTGGTCTCCTCCTGCAGTTCGTCAACGAGTACAAGTCC 594
                                                                                                                                                                                                                                                            775 conhaderraccadarricaccadarrecerricacereacada Agada a contra contra con a contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra co
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GTGAAGGCTATCGCCGAGCTGTGTAGCTTCGAGAATCTGAAGAAGTTGGAGGTGAACAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CCAGAGAAAGICTITITIAAGGIACGAGGAICTCAAAGACGACATCGAGACCAACTIG
                                                                                                                                     625 GAGTCAGTGAG----CCCAGTCTTGCTAGACCAAGCTTTTGATCTGTATTGCCGGGGAGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               13.7%; Score 147.4; DB 15; Length 1041; 53.9%; Pred. No. 6.2e-38; Dred. 0; Mismatches 306; Indels 15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1033 GTGGATGACAAGTTAGGTGGATCTGGTCTCACTTTCAGGTTGAGC 1077
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1015 Acceadecraacrirecadeririedeciadececeadecreare 1059
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 331, Application US/10259165
Publication No. US20030135888A1
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity 53.9
Matches 376; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Oryza sativa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Zhu, Tong
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 15
US-10-259-165-331
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-10-259-165-331
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQ ID NO 331
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   835
                                                                                                                                                                                                                                                                                 595
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    742
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     862
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         922
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ORGANISM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ď
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ď
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                     \delta
                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Lar Rosa, Thomas J.
APPLICANT: Lar Rosa, Thomas J.
APPLICANT: Lar Rosa, Thomas J.
APPLICANT: Zhou, Yihua
APPLICANT: Cao, Yongwei
APPLICANT: Wu, Wei
APPLICANT: Barbaruk, Brad
APPLICANT: Li, Ping
TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement
TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement
TITLE OF INVENTION NUMBER: US/10/437,963
CURRENT APPLICATION NUMBER: US/10/437,963
CURRENT FILING DATE: 2003-05-14
NUMBER OF ESQ ID NOS: 204966
SEQ ID NO 94656
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            336
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          516
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TGCCGGAACCGTTTGACACATTCATCTTCGTGGCATTACACCAACATCAAATCC 624
                                                                                                                                                                                                                         768
                                                                                                                                                                                                                                                                                                                                                        468
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      828
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     528
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       396
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               397 ACTICCAACCTCATGACCTTGTACCTTTCGAGTACAAGCTTTACGCCAACGGAGAT 456
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           414
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              564
       CCTTTCACCGAAGAAGAAGGAAAGGGAGTTGTGAAGGCTATCGCCGAGCTGTGTAGC 888
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           238 gacarcerceccaccereceaageses and sales as a conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and conservance and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                dececcionectricon de accidente de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra del la contra del la contra del la contra del la contra del la contra de la contra de la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     475 crecificacededederedreseceseseseseseseseseseseseseses 534
                                                                                                                                                                                                                         709 AIGITGGGATACTGGAGAGAGAGCTTGAAGAGACCAGAGAAAGTCTTCTTTAAGGTAC
                                                                                                                                                                                                                                                                                                                                                        409 GIATIGGGATATIGGAAGGCAAGGAAAACCCCAACAAAATATIGTITITGAACTIT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     469 GAAGATCTTAAGGAAGATATGGATTCCCATTTTGAAATTTTTGGCCATGTTCTTAGGAGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            277 GACGICGIICIICGCCACCAIACCIAAAICCGGIACAACCIGGCIAAAAGCIIIAACIIIIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         recercesececacearses francia de la recenta de la recenta de la companya de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta de la recenta d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GTTCCCGATCTCGGGTCTAGCCAGTCCAAGAACGTTCGCAACCCACTTACCGTTCGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -----AGAAACCCGGTGTGAAGGTCGTGTACTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GAGGATCTCAAAGACGACATCGAGACCAACTTGAAGAGCCTTGCAACTTTCTTAGAGCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              27;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 155; DB 17; Length 1068;
Pred. No. 1.8e-40;
0; Mismatches 360; Indels 27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ; OTHER INFORMATION: Clone ID: PAT_MRT4530_92925C.1
US-10-437-963-94656
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TTCGAGAATCTGAAGAAGTTGGAG 912
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TTTGAGAACTTGAAAGAATTGAAG 611
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ; Sequence 94656, Application US/10437963
; Publication No. US20040123343A1
; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               14.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              517 TCCCTAAAGGAAACGATCG-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Best Local Similarity 53.1
Matches 438; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: DNA
ORGANISM: Oryza sativa
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 14
US-10-437-963-94656
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             169
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   588
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  355
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 457
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               415
                                                                                                  349
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 829
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              688
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
```

Dp ò Пp ò g δ q δ g

ò

```
177 CGTCATGGTGGCGCACGTCCACTTCACCGCCGCGACACGACACATCATCATCGCCACCTT 236
                                                                  297 ACCTAAATCCGGTACAACCTGGCTAAAAGCTTTAACTTTCACCATCCTTAACGTCACCG 356
                                                                                         237 CCCCAAGTGTGGCACCACCTGGCTCAAGGGGCTCCTTCGCGACGTCCACCGCGACGG 296
                                                                                                                                                                        297 cigaceicacideiceicrineiaideiaideiaceicecriceceiaidaeichaeacececeaiaideice 356
                                                                                                                                                                                                             408 TCATGACCTTGTACCTTTCTTCGAGTACAAGCTTTACGCCAACGGAGATGTTCCCGATCT 467
                                                                                                                                                                                                                                 357 GCACCAGCTCGTCCCGTTCCTCGAGATCCAGGTGTACGTGCGCGCGACAGGCGCCCGACCT 416
                                                                                                                                                                                                                                                                                                               417 GAGCTCCCTCCGGCCCCACGGCTCCTCGCGACGCACTCCCGCGCCCGTCCCTGCCGGC 476
                                                                                                                                                                                                                                                                                                                                                                                               536
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                592 -GGCGAGGACTTCCGCCTTCTGCGACGGCGTGTCGCTGGTCGGCCGTACTGGGACCA 650
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    768 CGAGGATCTCAAAGACGACATCGAGACCAACTTGAAGAGGCTTGCAACTTTCTTAGAGCT 827
CATCATGTCTTTCCAAAACATTTCCAATCCCTCGAAAACGACGTCGTTCTCGCCACCAT 296
                                                                                                                                        357 -GITTGATCCGGTTGCCTCGAGTACCAACCACCTCTTTTCACTTCC-----AACCC 407
                                                                                                                                                                                                                                                                                     468 CTCGGGTCTAGCCAGTCCAAGAACGTTCGCAACCCCACTTACCGTTCGGTTCCCTAAAGGA 527
                                                                                                                                                                                                                                                                                                                                                         528 AACGAICGAGAAACCCGGIGIGAAGGICGIGIACTIGIGCCGGAACCCGITIGACACTA 587
                                                                                                                                                                                                                                                                                                                                                                                                                               CATCTCTTCGTGGCATTACACCAACAACAACAACAACGAGTCGAGTCAGTGAGCCCAGTCTTGCT 647
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    648 AGACCAAGCTTTTGATCTGTATTGCCGGGAGTGATCGGGTTTGGCCCGTTTTGGGAACA 707
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            708 CATGITGGGATACTGGAGGAGGCTTGAAGAGACCAGAGAAAGTCTTTTTAAGGTA 767
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  828 TCCTTTCACCGAAGAAGAACGAACGAAGGGAGTTGTGAAGGCTATCGCCGAGCTGTAAG 887
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          477 CTCCGTCGCCATCTCCGGCTGCAAGGTGGTGTACATGTGCCGCGGCCCCAAGGACTGCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CTTCGAGAATCTGAAGAAGTTGGAGGTGAACAAGTCA 924
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   237
                                                                                                                                                                                                                                                                                                                                                                                                                                 588
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              888
                                                                à
                                                                                                    엄
                                                                                                                                                                 ద
                                                                                                                                                                                                              상 점
                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                             qq
                                                                                                                                                                                                                                                                                                                                                         8 6
                                                                                                                                                                                                                                                                                                                                                                                                                    & 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          & g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
```

Search completed: August 17, 2004, 07:12:21 Job time : 1842 secs

This Page Blank (uspic)

(oldsu) Madia Son!